THE BUILDER

A RECORD OF ARCHITECTURE AND CONSTRUCTION.

WITH WHICH IS INCORPORATED THE "BRITISH ARCHITECT."

VOL. CXVIII.—No. 4026. APRIL 2, 1920.

HOUSING BONDS AND HOUSING DIFFICULTIES.

ACCORDING to published statements, the Government housing scheme had resulted at the end of February in the completion of 511 houses. Those in course of erection numbered 9,125, while contracts had been signed for a further 32,586. Tenders submitted by local authorities and public utility societies involved 72,196 houses, and of these tenders for 65,296 houses had been approved. The number of houses now required is placed at 800,000, and this figure grows week by week; hence it would seem that unless the geometrical rate of progress promised us arrives soon, the housing scheme will have to be again revised if the deficit is ever to be wiped off. The two great difficulties are money and labour. To meet the first, a great organised appeal in connection with housing bonds is proposed immediately after Easter, and local authorities will probably be asked to appoint voluntary committees to prosecute this matter. That these authorities are in difficulties, or will be in difficulties, seems apparent, and if the necessary funds cannot be obtained it is not easy to see how many of these schemes can mature. A great deal of work has been done by architects and also, in later stages, in builders' offices, and the position needs clarifying. The public imagines that architects are making a harvest from these houses. As a matter of fact, very few have received any fees, though very heavy expenses have been incurred, and some architects, mostly young men who have very properly been given preference in this work after their war service, are almost in despair. Unless the housing bonds are a success, it seems difficult to see how many of these men will be adequately remunerated, although few who embarked in this enterprise have been able to accept any other kind of work. The extension of the Rent Restriction Act has not made the position easier. We presume that this extension is desirable politically, but, as we have several times said, the principle is bad, and we see no more reason why rents should now be restricted than the price of other commodities of which there is a shortage.

As to the labour difficul y, unless something will induce the employees to work more hours, and, what is more important, more per hour, we do not see how matters are to proceed rapidly even if money is forthcoming. Particulars of a small scattered rural scheme in the home counties have just come to our notice in which it has proved quite impossible to get builders to tender. Local builders, under pressure, have undertaken to tender for a few cottages in their immediate districts, but they say that they cost of transport, even for a few miles, is so great that they cannot attempt this elsewhere. In the old days a workman went to his job, now he demands to be transported there and back by his employer, and at the present rate of wages this is enough to kill a small job at a distance from a country builder's yard, for he has a great deal of much more profitable work he can do locally. Some of us do not realise what transport means in these days. Not only movement of men but also of materials is most costly, and the congestion and irregularity of things at present is a great factor of expense. Trucks and barges are held up for days, very often as mere places of storage, demurrage being charged to the consignee, who may be paying labour for doing nothing but await their arrival. Then the material may arrive suddenly in a deluge, and it may prove quite impossible to deal with it without further delays, and these again react on other materials in course of transit behind it. We hope that the Ministry of Transport will regard the solution of these troubles as one of its first duties, for at the moment they are much more important than dreams of new arterial roads or even improvements of existing transit avenues. All this goes to show that every local facility, both in labour and materials, should be used to the utmost. Of course, there are other knotty questions which affect the situation, one being Government control. We have met more than one firm of brickmakers who contend that the Government brick purchases were entirely wrong. While we are not prepared to adjudicate, it would seem that control should now be confined to the retention of adequate supplies in this country to prevent the cost of building materials here rising to that which the foreigner is prepared to pay. This we regard as essential for home interests, and as the makers' profit at home is quite high enough this restriction of exports involves no hardship.

We have expressed doubts as to whether the Government subsidy was sufficient to tempt the builder adequately to attack this urgent need, and, while it would be foolish to generalise from isolated instances, it does not seem to us that our fears are yet groundless. It may be too soon to express any considered opinion, and no doubt this incentive must be doing something to alleviate the position, but, unless the time for the operation of the subsidy is to be extended, the results will have to make themselves evident before many months are over. At best there seems little prospect of the deficit being reduced in the next twelve months, and if we are merely to supply current needs the initial purpose of the housing scheme will have failed. It is, of course, easy to be pessimistic and to indulge in destructive criticism, and we should like to refrain from saying anything which is in itself devoid of utility. We hold that the real solution rests in the hands of labour, or, if this is going too far, that anyhow the situation might be immensely changed by a more responsive attitude on the part of labour. The 44-hour week comes into operation in May, and the Building Trades' Council has proposed that the operatives should agree to work for an extra hour at ordinary rates, that is, without overtime payments. Inasmuch as the house shortage affects almost entirely that fraternity in our social organisation from which those operatives are drawn, this proposal does not seem an unreasonable one. During the war, even after the days when we were "in extremis," demands upon organisations were readily accepted which were entirely at variance with the normal regulations of our social order, and now this request, made for a constructive as against a destructive cause, should meet with acquiescence; but there seems to be considerable doubt as to whether this helping hand on the part of labour will be extended. Some time ago the Prime Minister raised with labour a matter to which we previously had alluded, namely, the possibility of applying to building something in the nature of dilution, so far as small houses were concerned. This has not been favourably considered, and we fear that it is a subject which is hardly likely to be raised in the opening of the housing bonds campaign. We feel, none the less, that a great deal could be done in this manner, and that by amicable co-operation much semi-skilled and unskilled labour might be recruited from other less depleted or less necessary trades to assist building. Our suggestion was that a very short intensive training in a strictly limited field of work would produce men able, under competent direction, to undertake building operations—not all operations, but a great deal of the work, much of it repetition work, required in erecting cottages. We suggest that the Building Trades' Council take this matter up and, in a spirit of fairness to men who have entered the trade on trade lines, endeavour to discover whether the interests—the ultimate interests—of the regular operatives cannot be safeguarded in some way which will render this scheme acceptable. If it should appear that this can be done and the operatives refuse the suggestion, is there anything in a free country to prevent such a scheme being initiated by private persons, under a guarantee of Government supply of materials?

NOTES.

The Artists' Quarter.

That there are certain advantages in the establishment and preservation of an artists' quarter we suppose none will deny, but we hardly think there will be complete unanimity of opinion that for London the location of such should be in Chelsea. Doubtless the reverence for antiquity is gradually coming to be a factor as regards the location of artists at Chelsea, and it is a more or less convenient place to get to. But is it quite impossible to have an artists' quarter further out amongst beautiful surroundings, where the artists could obtain a certain isolation combined with the advantages of a co-operative stores, club and recreation facilities? Perhaps the really serious artist who has something worth telling is not so keen on the feverish delights of Montmartre or Chelsea, and even the pleasures of a rural Bellagio might prove too distracting for settled work. As for the association of building artists (sometimes called architects) we are quite sure there is not enough of the pleasure and helpfulness which it should bring to them. The assemblage of architects at the usual meetings of the Institute does comparatively little to promote good-fellowship or actual help. Could we not have open evenings at the Institute for friendly association? Surely a committee of the Institute could devise something which would bring architects together frequently in a social way so as to promote that unity of thought and effort which is so much needed. We would go even further and endeavour to interest in such meetings any laymen who are genuinely interested in the art of architecture. It sems to us that this desirable contact with the outside public is better secured in some other large towns.

City Churches.

It was recently stated that the Commission which is inquiring as to whether the present number of churches in the City of London is necessary do not suggest the sa'e of more than three or four, but while we hope this statement is correct, we may add that only the most convincing reasons for the disappearance of even three or four of these buildings will be accepted. The proposals of the Commission must be very critically examined, as the City can ill-afford to lose any building of distinction, and especially the towers and spires of its churches.

Department of Architecture and Civic Design, Cardiff.

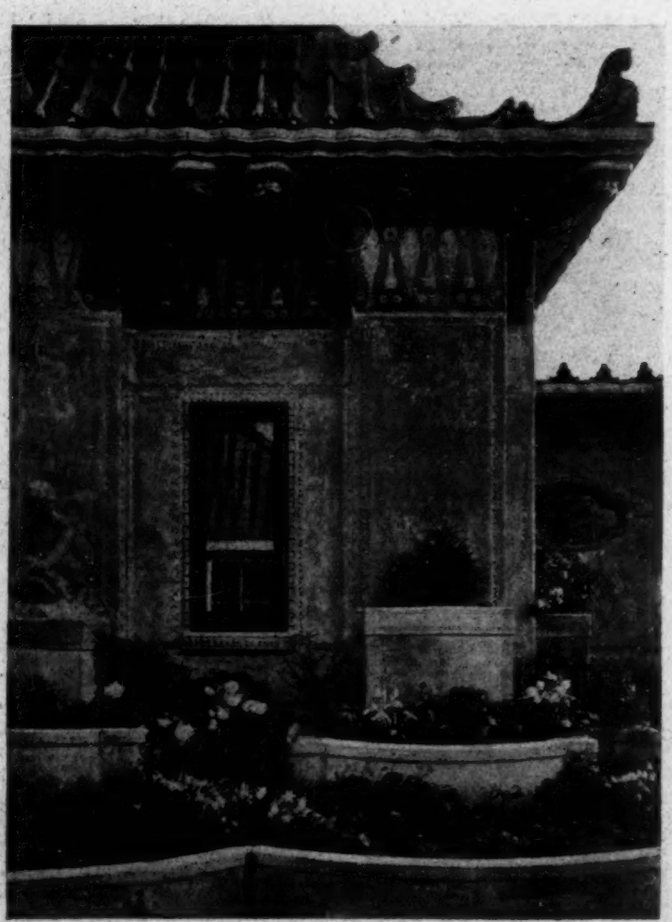
The new Department of Architecture and Civic Design at Cardiff Technical College is to open on Monday, April 12. Full-time day courses of study will be provided, and, in addition, part-time courses for students who are already in offices as pupils. Mr. W. S. Purchon, M.A., A.R.I.B.A., is the head of the Department, which he will, no doubt, run on lines which will result in the School having a successful future. The work done by the Department has the support of the South Wales and Monmouthshire Institute of Architects. Mr. Purchon was in charge of the School of Architecture at the University of Sheffield for twelve years, and for the last nine years he has been a member of the Board of Architectural Education.

The Rent of Houses.

The letter by Mr. C. Wicksteed, which we print on p. 398, should receive the whole-hearted attention of everyone concerned in the housing question—architects, builders, the occupying classes and, above all, the Government. What our correspondent says is not new, but the facts have rarely been put so clearly and forcibly and the case made out for an increased rent for houses built prior to the war appears to be unanswerable, while the suggestion made for reducing the cost of building should engage the attention of architects and builders.

Housing and Public Health.

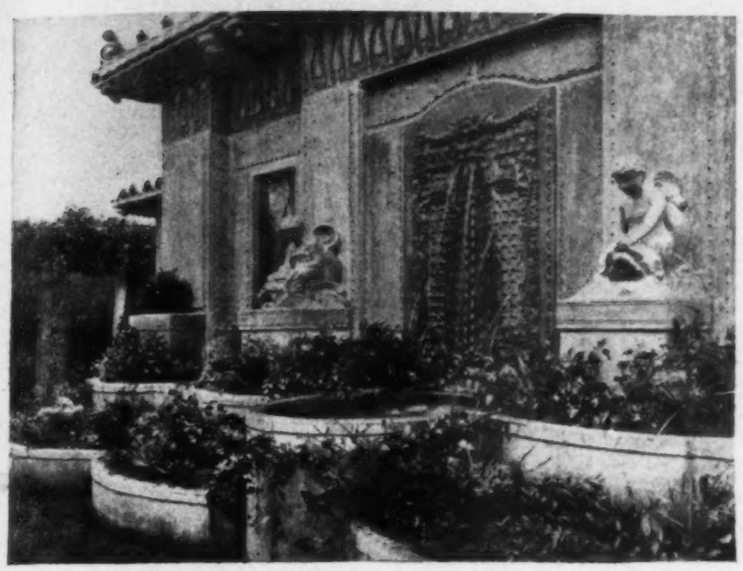
A very well written book on "Housing and the Public Health,"* by Dr. John Robertson, Medical Officer of Health, Birmingham, has just appeared and, wearied as the reader may well be of the endless reiteration as to housing, good and bad, he may feel more than toleration for a small book which puts the matter in so lu id and compact a form. That there is much to be done may be gathered from the one fact that somewhat over 60 per cent. of the whole population of Glasgow are stated to be living in one or two-roomed dwellings in tenement buildings, the death-rate varying from 10.6 per thousand in a four-roomed house to 25.9 per thousand in a single-roomed house. This shows what an enormous leeway we have to make up, and this is only one part of the housing problem, for in good class houses the lighting and free supply of fresh air are often so defective as to predispose the inhabitants to tuberculosis. In bad areas in Birmingham the death-rate is nearly



Metallised-Cement Decoration.

(*See* page 386.)

* Cassell & Co. 5/- net.



Metallised-Cement Decoration.
(*See* page 386.)

double that of even a fair class artisan area with moderately good houses. We certainly need no further evidence of the lack of decent living or demonstrations of the value to the State of good housing. Our chief concern now is to see how best to provide it and how quickly it can be done. Dr. Robertson's book is mainly occupied by clearly-expressed definitions of the various conditions ideal for satisfactory housing, and some good diagrams elucidate the text. We note, however, some badly lighted staircases amongst the suggested plans.

Defective Housing *v.* Feeding.

In a small book on "Defective Housing and the Feeding of Children"* Dr. J. Lawson Dick brings forward the conclusion that housing is a far more serious factor than feeding. He says "it is difficult to avoid the conclusion that defective housing and slum dwellings are the essential cause of rickets whilst defective feeding is a contributory ard aggravating factor. If the retarding of the growth and development of the people were due almost entirely to the deficiency of vitamines we might well concentrate on that matter and not spend millions on housing schemes, which could wait for more leisurely treatment." We are glad to not that Dr. Lawson Dick calls attention to the displacement of slum areas by factory buildings, for this is another indication of the need for forethought in directing and controlling the growth of London. In one or two cases it has happened that the L.C.C. has actually built schools in crowded areas where factories have taken the place of slums and has had difficulty subsequently in filling these schools.

* Geo. Allen & Unwin, Ltd. 3s. 6d. net.

The Building of Cheap Houses.

It is said they are building well and cheaply at Newbury. Under the superintendence of Mr. Lee Vincent, the Surveyor to the Council, a Workers' Association is building houses at £600 apiece. The Government grant will be £200, so that 6 per cent. on £400, the balance, gives 9s. 6d. a week rent. Mr. Vincent says that the final balance sheet for the first block of houses completed will open the eyes of those who have put themselves at the mercy of the contractors. We have heard it said that the men themselves need their eyes opening to the true situation. It is to be noted that the agreement with the workers is that all bonus and piece-work is to be prohibited. The following appears in the *Manchester Guardian*:—"The houses have hall, living-room, kitchen, scullery, larder and coal-cupboard downstairs, with three bedrooms, bath, and lavatory upstairs. 'The Ministry of Health,' said Mr. Vincent, 'have objected to the houses on sumptuary grounds. The rooms are too high, too good. But I have ceased to worry about Whitehall. It has begun to leave us alone, and we are getting the job done to the satisfaction of producer and consumer. Later on we shall need a new Town Hall, and I hope we shall build it for ourselves, for I am convinced that the future of industry lies with decentralisation, whether of the Guild type or along our own lines of Municipal Collectivism based on trade union support.'"

Metallised-Cement Decoration
(*See* page 386.)

GENERAL NEWS.

Obituary.

The death occurred on March 24, at 10, Lee Park, Blackheath, of Mr. Arthur Sutton Gover, F.R.I.B.A., at the age of 61 years.

At the meeting of the Royal Institute of British Architects on Monday last, the Hon. Secretary announced the decease of the following members: Mr. Robert Page (Fellow); Mr. L. H. Hutton (Associate); and Mr. N. W. de Courcey (Licentiate).

The Royal Academy.

Mr. Charles Sims, R.A., has been elected Keeper of the Royal Academy, in the room of the late Mr. Andrew C. Gow, R.A.

A Surveyor's Estate.

The late Mr. Henry T. Wakelam, M.Inst.C.E., of Ashley-gardens, S.W., formerly Surveyor, Engineer and Architect to the Middlesex County Council, and a former President of the Institution of Civil Engineers, left estate valued at £17,470.

The Architectural Association.

Owing to an outbreak of measles in the School, it has been considered advisable to postpone for the present all meetings and social functions at the Architectural Association. The conversazione and dance has been postponed until Tuesday, April 20, and the tickets already issued will hold good for that date.

Accident at the New County Hall.

An inquest was recently held at Lambeth on a young man who, whilst passing the New County Hall, which is being erected at Westminster, was killed by a marline-spike which fell from a scaffold and penetrated his skull. The deputy-coroner found that the usual precautions for the public safety had been taken by the contractors. With reference to this accident, a correspondent suggests that similar accidents would be avoided if a hemp-line were spliced through the eye of such tools, ready to be made fast when they are not in use.

Marylebone Town Hall.

The new Marylebone Town Hall, at the corner of Marylebone-road and Gloucester-place, was formally opened by Prince Albert on Saturday last. The building was completed in 1916, when it was taken over by the Government for war purposes. As the result of a competition in 1911, Mr. Edward Cooper, F.R.I.B.A., was selected as architect for the building, which has been erected to his designs. The four premiated designs were illustrated in our issue for December 1, 1911. Messrs. John Greenwood, Ltd., were the contractors.

Ancient Egypt and Art.

On behalf of the Egyptian Exploration Society, M. Jean Capart, Curator of the Musées Royaux du Cinquantenaire, Brussels, delivered a lecture at Burlington House, W., recently, on the study of Egyptian art. The earliest excavators, he said, were most unsystematic and unscientific in their work, and did not publish adequate records of their discoveries. The finds had been distributed throughout the museums of the world, and had often been classed together without sufficient discrimination. The study of the subject was also made difficult by the fact that the names of the artists were unknown, and the quality of statues of the same date, and even from the same tomb, varied considerably. The question of portraiture was complicated by the practice of erasing names from statues and inserting in their place names belonging to later periods, so that the inscriptions carved on monuments could seldom be taken as accurate proof of their date. In spite of all the study which had been devoted to the subject, the absolute beginning of Egyptian art still remained out of reach, and many years of careful scrutiny and research must yet precede the publication of a comprehensive history.

EXHIBITIONS OF THE WEEK.

Royal Institute of Painters in Water Colours

In his delightful book on his garden Mr. Eden Phillpotts says that sooner or later everyone wants to write about their garden, and it would seem that a marvellous number of people feel the necessity of painting pictures, judging from the fact that some three times the former number have been sent to the R.I. 111th Exhibition, whilst we see hung a large proportion which can hardly hold much interest for artists, and must have been born out of some spirit of compulsion, such as makes light of all reasonable objections. Still, out of 422 exhibits one may find something which is a source of pleasure, and perhaps architects have a better chance than others in the search, for there are several good drawings of architectural subjects. Amongst these must be named some by N. Terrick Williams, such as his "Market Place, Quimperlé" (377). This artist always engages the sympathy of the architect for his picturesque vigour of handling and good colour values. In the Quimperlé drawing the blues and greens and yellows are so well managed that a rich and yet broad and dignified result is obtained; it is a delightful village scene. A sunny sketch, "The Cathedral Door, Quimper" (12), "Evening, Martigues" (242), and "A Bright Morning" (363), are good things from

An Exhibit at the Exhibition of the Royal Institute of Painters in Water Colours.

the same hand. Mr. H. C. Brewer has some good drawings of architecture—"Evening, Cordoba" (360), "The Transept, Beauvais" (315), a good illustration of the fine grey front, and "The Old Cathedral, Coimbra, Portugal" (378), a fine, mysterious interior. The charm of old cottages is found in Oswald Garside's "In Cornwall" (3). "The Chancel of St. Paul's" is rendered with dignity (104) by J. Alphege Brewer. The wonderful old "Trinity Bridge, Crowland" (143) is pleasantly illustrated by A. Van Anrooy, and a fine piece of colour in a view of buildings is to be found in "The Crescent" (280), by Edwin Glasgow. Amongst pictures the President, Sir David Murray, charms us anew with a sort of fairyland ideality in "Ullswater, Silver and Gold" (251) and his admirable "Storm-worn" (375), in which a delicate pale blue sky is wreathed about with white cloud in contrast with the fine mass of rock in all sorts of pearly greys and browns—an impressive and telling picture for all its delicacy of handling. For the rest we have a fine sunset by Arthur Severn (394), a study of splendid colour in Dudley Hardy's "Snake Charmers" (329), a brilliant little landscape by Leonard Richmond (106), a charm of tender greens by Frank Spenlove-Spenlove (268), the dainty "Springtime" (331) by Frank Dicksee, R.A., a delightful little landscape by A. K. Brown (358), and other noticeable work such as Nos. 341, 336, 122, 307 and 206. It is a pleasure to see in the gallery the beautiful bust of "The Lily of Killarney" (276), by F. W. Pomeroy, R.A. Comparing the bulk of what we have seen in these galleries with the water colours of Mr. Reginald Smith, which we noted last week at the Fine Art Society's, one feels that the true value of water-colour art is a good deal missed by many who affect to be following it.

THE SURVEYORS' INSTITUTION.

Government of Ireland Bill.—The Council is considering the proposals contained in Clauses 51 to 56 and the Fifth Schedule of the Bill for dealing with the superannuation and pension of officials who may be retrenched or compelled to retire on the change of Government.

Increase of (War) Wealth and the Rent Restriction Acts.—The Council is considering the preparation of evidence to be placed before the Select Committee of the House of Commons on Increase of (War) Wealth and the Departmental Committee on the Increase of Rent and Mortgage Interest (Restriction) Acts.

Local Authority Surveyors.—Conferences have been held between representatives of the Surveyors' Institution and the Institution of Municipal and County Engineers on the subject of the qualifications desirable for, and the conditions which should attach to, the position of engineer or surveyor to a local authority. It has been decided jointly to approach the Departments principally concerned, with the object of impressing upon the respective Ministers the importance of only properly qualified persons being appointed to fill these responsible posts, and the necessity of adequate salaries being offered if able and highly-educated men are to be attracted to this branch of the profession.

The Country Meeting.—The annual Country Meeting of the Institution will be resumed this year. The Council has accepted an invitation from the Gloucestershire, Somerset and North Wilts County Branch to visit Gloucester on June 9, 10 and 11.

THE SOUTH WALES SOCIETY OF ARCHITECTS.

A meeting convened and presided over by the President of this Society—Mr. Ivor Jones, A.R.I.B.A., of Cardiff—was held at Newport on Monday last, when it was decided to form a branch of the Society for Newport and district. The objects are to further the interests of the profession in the district, and to provide special facilities for study amongst the younger members of the profession, stimulating their interest by competitions throughout South Wales.

It has been generally felt that decentralisation would better serve the needs of so large an area as that embraced by the present body, and make for greater unity amongst its widely diffused members by enabling them to get in touch with one another in their own district, and also by bringing into the Society members of the profession whom time and distance have prevented from attending the meetings at Cardiff. It is intended to make the new branch self-governing within its own district, whilst still actively co-operating with the Council of the S.W. Institute, on which it will have direct representation. For this purpose the following officers were elected for the ensuing year:—President: Mr. C. F. Ward, F.R.I.B.A.; Hon. Secretary: Mr. C. E. Tebbs, A.R.I.B.A.; Treasurer and Librarian: Mr. Frank Swash, F.R.I.B.A. Committee: Messrs. Walter Rosser, M.S.A., C. E. Page, Lic. R.I.B.A., R. Fisher, A. F. Webb, H. Rowe.

CORRESPONDENCE.

Unification and Registration.

Sir,—It must always be gratifying to the parents when one of their offspring is received with open arms into those circles which have hitherto excluded it. In 1912, I publicly advocated, pending statutory registration, the formation by agreement between the parties concerned of a Council of Architectural Bodies to deal with matters of general professional interest. In your columns of October 10, 1919, I returned to the charge by suggesting that the Architects' War Committee, which had been formed very much on the lines I had previously indicated, should be reconstituted into a Federated Council of British Architectural Societies, and I invited anyone with a better scheme for unification to give the profession the benefit of it, but no one took up the gauntlet.

My suggestion was afterwards adopted by the Council of the Society and brought officially to the notice of the Architects' War Committee and of the R.I.B.A., neither of whom would have anything to do with it.

On March 22, 1920, the general body of the R.I.B.A. passed a resolution approving of the appointment of a committee composed of representatives of British architectural societies to prepare a scheme of unity and registration. Further, the President of the R.I.B.A. is reported to have stated that in doing so they had formed a body which, if made permanent, would become a General Council of Architects representative of the whole profession. In other words, unity by federation.

However, it is of little importance as to who gets the credit so long as the object is achieved. The great thing is to get a move on and to keep on moving until the end is gained.

C. McArthur Butler,
Secretary, Society of Architects.

Salaries of Architectural Assistants.

Sir,—In a recent issue of the *Builder* appear two interesting advertisements, one for a temporary qualified architectural assistant, who is to be a neat and expeditious draughtsman, capable of preparing plans, specifications and estimates under supervision, all for £150 a year. The other offers £2 10s. to £3 10s. for a temporary *junior* architectural assistant, one of whose indispensable qualifications is to be that he must have "a knowledge of quantities."

Of course, there is not likely to have been a single suitable response to either advertisement, but it does seem a pity that professional men holding important positions allow their names to be used in support of what is actually the "sweating" of their younger professional brothers. They have probably protested to their respective Councils already; if so, they should have carried their protests so far as to insist that the advertisements went out over the signatures of the respective Clerks, or the Chairman or Mayor. If they require any support in their protests, my Executive will always be willing to give it. It is to our gain to see that all positions are well and properly paid, the high and the low, for many of our members will in their turn come to the top. Meanwhile, we also look to the seniors to support us.

Chas. McLachlan,
Hon. Secretary, Architects' and Surveyors' Assistants' Professional Union.

War Memorial, University College, London.

Sir,—We trust you will give us the hospitality of your columns to call the attention of former students of University College and University College Hospital, London, to the memorial we are endeavouring to raise to College and Hospital men who fell in the war. Owing to the many changes that have taken place during and since the war our address list is not complete. It will be of great assistance to us if all members of the College who have not already received our appeal will send postcards with their names and addresses and dates of student years to the Hon. Secretary. We shall then be very glad to send them full particulars of our war memorial scheme. We hope we may rely on the support of all students, past and present.

Gregory Foster, *Chairman.*
G. Blacker, *Vice-Chairman.*
Lawrence Solomon, *Hon. Secretary.*

Reparation for War Damage.

Sir,—At last there is evidence that the Government is dealing with this matter in earnest, and forms can now be obtained on application to Mr. W. Neill, Controller, Reparation Claims Department, Board of Trade, Cornwall House, Stamford-street, S.E. 1. It is very satisfactory that the facts are now to be collected and that the Department asks for them to be "forwarded as soon as possible."

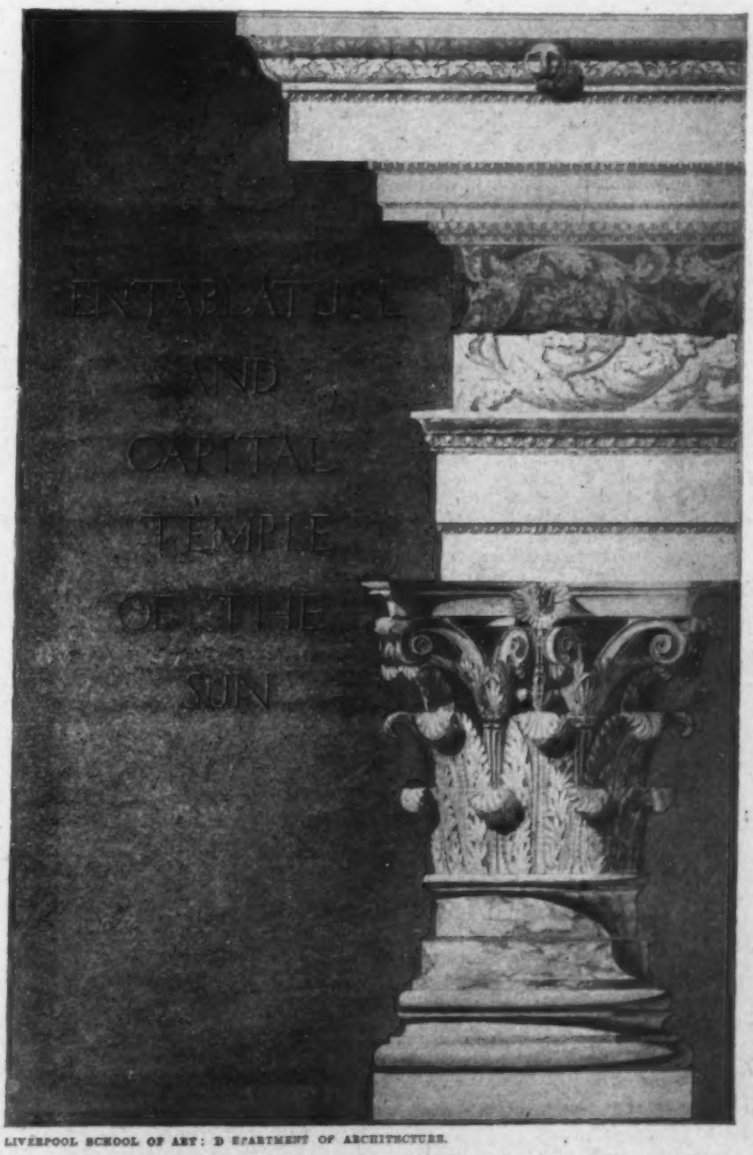
The forms are: (1) damage due to loss of life of British civilians; (2) damage to British civilians due to personal injury; (3) damage to British civilians by loss of or injury to property; (4) damage caused to British civilians by being forced to labour without just remuneration. Claims which have been sent in to the Foreign Claims Office have been transferred to the new Department, and no further action in these cases is asked for at present. It might, however, be advisable for claimants to obtain the forms and consider whether their original claims call for amendment.

Particulars should be furnished of all injuries which have been compensated in whole or in part from private or public charitable funds, as in the end all such funds should be reimbursed.

Mark H. Judge,
Chairman,
Committee on War Damage.
7, Pall Mall, S.W.1.

Proposed Rifle Brigade Memorial.

The Rifle Brigade Memorial Committee (71, Eccleston-square, S.W. 1) is appealing for subscriptions for a memorial to the 12,000 members of that regiment who fell in the war. It is proposed to erect a memorial hall at Winchester, which would contain a shrine on which would be preserved a roll of honour; the remainder of the hall would be used as a regimental museum.



LIVERPOOL SCHOOL OF ART: DEPARTMENT OF ARCHITECTURE.

Study of Entablature and Capital from the Temple of the Sun.
Mr. S. V. Heighley. (*See* page 387).

Mr. John W. Simpson (President) occupied the chair at a meeting of the Royal Institute of British Architects, at 9, Conduit-street, W. 1, on Monday last.

Royal Gold Medallist.

The President moved that M. Charles Louis Girault, whose qualifications and magnificent work, he said, did not need enlarging upon, be elected Royal Gold Medallist for the present year, and this was unanimously carried.

Higher Buildings for London.

Mr. Delissa Joseph then read a paper on the subject of higher buildings for London. After dealing exhaustively with the origin and progress of the discussion in the Press on the existing limitations on the height of buildings and the question of the desirability of the erection of skyscrapers in London, he said that the present limit of height was 80 feet and two stories in the roof, and however wide a thoroughfare might be, or however open might be the outlook of a building, no greater height could be allowed. The 200 feet buildings that he advocated he proposed should be permitted only facing parks, the river, and large open spaces, but there was no reason why that idea should not be extended to give a right to increase the height of a building beyond 80 feet to the extent of one foot in height for every additional foot in the width of the street beyond 80 feet. The 200 feet buildings would give approximately 16 or 17 stories above the street level, and represent a height equal to about the height of the Monument. They would be modest structures compared with the buildings of 36 stories suggested by Sir Martin Conway, or with the American "skyscrapers" rising from 40 stories to the 57 stories of the Woolworth Building, which, by the way, had been aptly described as a "Cathedral of Commerce."

He was not advocating "skyscrapers," nor schemes for costly clearances, nor had he any royal road for the solution of the problem of the under-development of London. He only advocated that, by making the Building Act more elastic, owners of property might, in suitable situations, be enabled to develop their land from time to time, as the leases fell in, to an adequate height, and thus gradually to relieve the pressure of accommodation in London. At the same time, he suggested that the largely increased rateable value which would result could be capitalised and applied in the widening of congested thoroughfares. Whilst in the City of London street improvements had been largely paid for from the funds of the Bridge House Estates, there was no such fund available for the widening of streets in other parts of London, and therefore the scheme for higher buildings would offer a new available source for the production of the necessary capital for such public improvements. The other uses of such funds which obviously suggested themselves were the further equalisation of rates in the poorer boroughs, and the financing of housing schemes in the outskirts.

In addition to the question of the pressure of accommodation for commercial and residential purposes in Central London, there was no reason why the programme he advocated should not be carried further afield and applied to the existing main routes leading out of Central London to the four points of the compass, nor why similar advantages should not be taken for the adequate development round the numerous commons and open spaces within easy reach of the centre. Kennington Park and Clapham Common at once suggested themselves as illustrations of inadequately utilised building frontages. Then in London itself there were opportunities of increasing the height of buildings to a height equal to the maximum width of the street itself, as, for example, in Portland-place, which, being 125 feet wide, would permit of buildings 125 feet high. In the northern end of the City-road there was a width of 130 feet. In the widest part of the Euston-road, a width of 160 feet between the houses; Marylebone-road for a part of its length about 120 feet, Whitechapel High-street about 100 feet, Mile End-road, 145 feet, and Clapham-road, about 130 feet, so that if, in cases like that the Act would allow new buildings to be equal only to the width of the street it would enable structures from 100 feet to 160 feet in height to be erected within an angle of 45 degrees from the opposite building.

It was obvious, for instance, that an adequate development of, say, the Clapham-road with buildings of 130 feet on either side would offer additional accommodation for thousands of persons within a comparatively few minutes of the City and West End who, at present, had to travel many miles to and from their work; while the possibilities for business premises afforded in Euston-road by carrying the buildings 160 feet in height would make the mouths water of the numerous commercial undertakings which were now clamouring for space demanded for the adequate development of their businesses in the centre of London. The case for building higher on the River Embankment was unanswerable, as was the case for building higher opposite open spaces; but in the heart of London there were some almost equally unanswerable cases when one realised a few figures like the following:—Adelaide-place, London Bridge, 130 feet wide; Hanover-square, 280 feet wide; Trinity-square, 380 feet; Smithfield, 340 feet; Finsbury-square, 410 feet; Lincoln's Inn Fields, 645 feet.

The fear expressed by some writers as to the adequacy of the London strata for affording a foundation for buildings of 200 feet high was answered by the fact that the London clay was, in places, as deep as from 400 to 600 feet. The fear that some writers had expressed that high buildings would overshadow St. Paul's need not be considered seriously, as St. Paul's Churchyard was too narrow to receive higher buildings. It was a mistake to assume, as some people had, that business accommodation must necessarily be limited to the City. There was a tendency on the part of certain business concerns to go to the West Central or the West End. The American Oil Co. was already carrying on its business on the edge of St. James's Park, and the British-American Tobacco Co. carried on its business on the riverside, at Grosvenor-road.

There was an interesting precedent for exceeding the 80 feet in the case of the City of Manchester, where there were many buildings at least 110 feet in height, the local regulations, as he was informed by Mr. J. Swarbrick, being on the very generous lines that a building might be 2½ times in height the width of the street in which it was situated. There was a well-known illustration of higher buildings on the riverside in the case of the Royal Liver Building at Liverpool, which stood 170 feet above the level of the river bank, comprising 10 stories, varying in height from 23 feet to 15 feet; and there were 5 stories in addition in the square of the towers, the total height to the top of the towers being 312 feet. Mr. Aubrey Thomas, the architect of that building, had erected the Tower Buildings to a height of 112 feet to top of parapet, with a tower rising to 153 feet, besides several other buildings to a height of over 100 feet.

In considering the question of housing more people in Central London, regard should be had to the fact that the saving of railway fares could be well applied to the increased rentals which would be required for central accommodation, quite apart from the saving of wear and tear attaching to the daily travelling, and the gain of 1½ to 2 hours a day of increased leisure. As illustrating the crowded conditions of London to-day one had only to regard the fact that double rentals were being paid for old premises, and high premiums were being paid for possession of residential suites, and that the increased rents demanded, in view of the increased cost of building, were being paid without question; all of these were clear evidences of the extent of the unsatisfied demand for business and residential accommodation. Anyone moving about with his eyes open could point to many buildings, especially those facing open spaces, which were obviously inadequate to their opportunities, "and visibly cry out to be raised."

The course suggested by the author, as opposed to the course suggested by Sir Martin Conway, might be described as the "middle course." If London was to hold its place as the world's centre, some such development as he had indicated must be undertaken. The gradual development of London upon lines indicated would, in fact, be of the nature of a piece of grandiose town-planning. Instead of these suggestions increasing the traffic problem, they would contribute to reducing it, as the more business and residential premises provided in central positions, the less traffic would result between the centre and the outskirts, at the same time materially helping the housing problem and relieving the pressure at present existing in the outskirts. London was full to overflowing, both in the business and residential quarters, and the demand for accommodation was completely unsatisfied. Building outwards would only increase the traffic problem, and building upwards, therefore, was the only solution, and, by the suggested upward building a new rateable value would be established upon which municipal loans could be raised and be applied to the widening of congested thoroughfares in the inner metropolis. Here was an example of a practical scheme offering a gradual solution of the problem of the unsatisfied demand for business and residential premises in London, which must not be allowed to be obscured by impracticable suggestions, such as had been put forward in the discussion in the Press. Nor need we be apprehensive as to the result. Mr. Hilaire Belloc had said: "There is a Familiar Demon looking after London, who takes care that London shall never become unified or commonplace."

He trusted he had made out the case for a modification of the London Building Act so as to permit:—(1) Buildings up to 200 feet in height opposite parks, public gardens, open spaces and the riverside; (2) Buildings equal in height to the width of a street when that street was over 80 feet in width, provided that: (*a*) the rear angle was within 63½ of 16 feet above pavement level; (*b*) the structures were fire-resisting and fitted with staircases affording alternative means of escape, and (*c*) the elevations had been approved by the London County Council or the hoped-for Ministry of Fine Arts.

The increased accommodation which the gradual development under these proposed relaxations of the Building Act would afford to an inadequately developed London would supply an urgent need; it would afford a new and vast untapped source of assessment; the new assessment would form the security for large public loans, which could be applied to the widening of congested thoroughfares, the equalisation of rates, and the financing of municipal housing schemes; all this could be accomplished without detriment to the beauty of London and without recourse to the "skyscraper," and all these benefits to London and its inhabitants could be obtained by a couple of short clauses added to the present Building Act. They must, therefore, look to the R.I.B.A. Council to take the first steps towards realising the new conditions, and at the next business meeting he would move a resolution to refer the question to the Council with a request for it to take the necessary steps to bring about an alteration of the Building Act. The Council had itself established a precedent by drafting a Bill to amend the law of light and air because

it frustrated the development of London. Let it now draft a Bill to amend the London Building Act, so as to permit, with reservations and control, the erection in London of higher buildings.

Discussion.

The President, in opening the discussion, said that the Council had already appointed a Committee to consider the London Building Act, and that, therefore, there would be no need for Mr. Joseph's proposed resolution.

Sir Martin Conway said that in America the higher the flats the higher the rents which were charged, because it was preferable to live at a height. With regard to appearance, the Victoria Tower was a skyscraper, but its exterior would not be altered if lifts were installed and it were turned into a block of flats. He wanted London to be kept within its present boundaries and not to be allowed to spread out over the surrounding country. One result of the horizontal expansion was that about twenty of the City churches were recommended for demolition in order that office buildings might be erected on the sites; if higher buildings were erected this could be avoided. There was probably an economic height where the income reached a maximum for the minimum of cost, and that was the height to which buildings should be erected. If buildings, surrounded by open spaces, to house a large population, with their own co-operative stores, clubs, cinemas and schools, were erected in the centre of London, a much larger population could be housed within the present boundaries.

Mr. Andrew Taylor (late Chairman of the Building Act and Improvements Committees of the London County Council) said he did not think that higher buildings would improve or add to the beauty of London. In New York the beauty of the church spires was destroyed by the huge buildings beside them, and the symmetry of London as viewed from the river would be similarly spoilt by the erection of high buildings. If skyscrapers were used as dwelling places, the effect on the inhabitants—especially the children—had to be considered. Buildings in which large numbers of people lived would accentuate the traffic problem, instead of relieving it. Also, in case of fire, the elevator shafts would form flues up which the smoke would be drawn; the only means of escape would be by the iron staircases outside. He recommended that full use be made of the present Building Acts before steps were taken for power to increase the permitted height. The Act permitted of eight or nine stories, but only a few buildings exceeded four or five stories. To advocate the housing of people at sixteen or seventeen stories in the air was reversing the whole trend of present-day housing ideas.

Mr. John Hopkins, M.P., said he thought that higher buildings would go a long way towards solving the housing and transport problems. It could not be said that high buildings were impracticable, because it had been proved in other countries that they were not so.

Mr. R. Granville Smith (London County Council) said that although it was only proposed to erect the high buildings in wide streets and squares, light and air would be kept from premises in neighbouring streets.

Sir Solomon J. Solomon, R.A., said that buildings of twelve stories would have a depressing effect, but if they were erected they would have to be on the south side of the river or open spaces, so that the shadows were not thrown across other buildings.

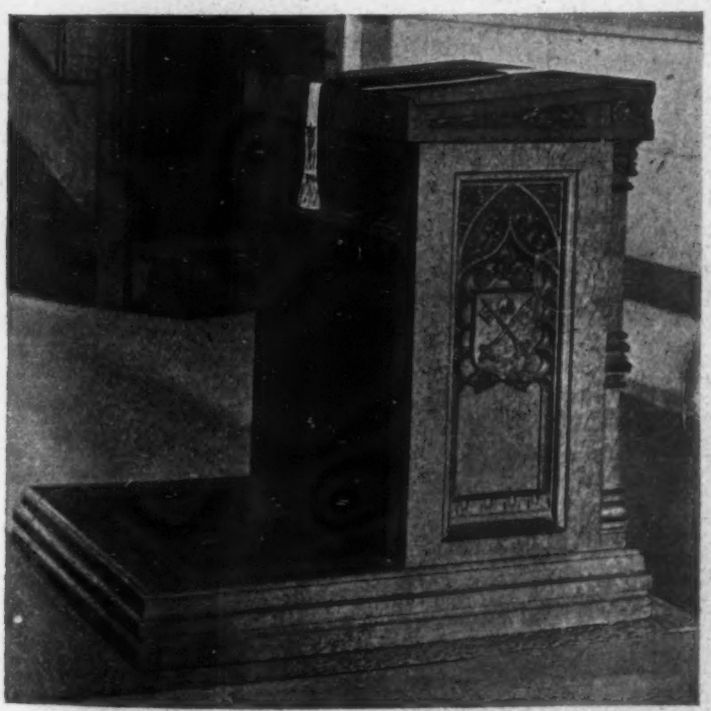
Professor Beresford Pite said that the removal of the 60 ft. limit to the top story of business premises and the substitution of the 80 ft. limit would considerably relieve the congestion in the City area. But the main problem in London was not a commercial problem but a housing problem, and such high buildings for dwelling purposes, if they could be erected, would have to be condemned by the sanitary authorities. The deaths from pulmonary disease in districts with high buildings were alarmingly high compared with districts with low buildings.

Professor S. D. Adshead said that the question of housing was a question of providing satellite cities and garden suburbs, not high buildings. The by-law which limited the height of buildings to 80 ft. plus 20 ft. in the roof was resulting in 80 ft. of building and 20 ft. of "jerry-building."

Mr. Walter Reynolds (Chairman of the Building Acts Committee of the L.C.C.) said that the biggest problem to be dealt with in connection with high buildings was that of fire; fireproof buildings did not exist. The fire brigade in New York cost six times as much as in London, in spite of which the damage caused by fire was three times as much in New York as in London. It would cost an enormous sum to alter the water mains in London to allow of the water being sent up more than 100 ft. Also, the longest ladder in the world was in use by the London Fire Brigade, but it only reached 100 ft.

The President said he thought the L.C.C. should have more power under the present Act to decide what was the economic height of buildings. In his opinion, buildings should not be regulated by the powers of the Fire Brigade, but the Fire Brigade should provide apparatus to cope with the danger of fire in buildings, however high they were built.

Mr. Delissa Joseph briefly acknowledged a vote of thanks, and the meeting terminated.



St. Peter's Church, Norton Malton, Yorks: Reading Desk.
Mr. Walter H. Brierley, F.S.A., Architect.

BIRMINGHAM ARCHITECTURAL ASSOCIATION.

The last meeting of the session was held at the Association Rooms, Royal Society of Artists' Buildings, Birmingham, last month. The President, Mr. H. T. Buckland, F.R.I.B.A., occupied the chair.

Mr. Gerald McMichael, A.R.I.B.A., read an interesting paper on the B.A.A. excursion to Ludlow. Soon after arrival a general preliminary tour of the town was made, including a visit to the church and the timbered cottages at Ludford. The following day an inspection was made of the old Grammar School, a place of early foundation, having been established by the Palmers' Guild in the thirteenth century. Here an adjoining building has been taken over and is now used in connection with the school. Some recent additions have been made, but the old schoolroom is quite an interesting building.

The Archdeacon's House and the Reader's House were next visited; the garden of the former adjoins the Castle, and is very picturesque. The latter is an interesting old half-timbered and stone building, overlooking the churchyard. The main part of the house was rebuilt in Tudor times, and is built of massive oak beams with wattle filling. The plaster ceilings and panels on the walls show the Pomegranate of Catherine of Aragon, the Tudor Rose, Fleur-de-Lys, and other emblems connected with the history of Ludlow. The carved three-storied Jacobean porch was added in 1616, and is a very fine piece of work.

The Castle, which dominates the town, consists of a very noble pile of grey, ivy-covered buildings, with a great keep or donjon tower, pierced with narrow-arched openings, dating from Norman times; and in the centre of the courtyard, detached from the rest, is a circular twelfth-century chapel with an enriched semi-circular headed west doorway. From the top of the keep a beautiful view is obtained, the Clee Hills forming a very fitting background.

St. Lawrence Church is said to be one of the finest in Shropshire. It is in the Perpendicular style, built in red sandstone, and has some reticulated tracery work in the windows. It is well situated in the centre of the town, with a commanding Perpendicular tower. Recent additions consist of a stained-glass window on the north side and a new oak pulpit, both of good design and workmanship. A visit was paid to Stokesay Church and castle, which is half fortalice and half manor house, and is situated in a restful valley surrounded by charming woodland. The castle gatehouse and church are well looked after, and repay careful inspection. The church has some fine woodwork of the Jacobean period, including a canopied pew and oak pulpit, also some good lettering on the walls.

A vote of thanks was proposed to the lecturer by Mr. C. Silk, and seconded by Mr. H. C. Hawkes.

MEETINGS.

Wednesday, *April* 7.

Royal Archæological Institute.—Dr. A. V. Peatling, F.S.A., on "Medieval Glass in Surrey Churches." At Burlington House, W. 4.30 p.m.

Industrial League and Council.—Mr. J. F Butterworth on "Results Achieved in Industry by Modern Methods." At Central Hall, Westminster, S.W. 7.30 p.m

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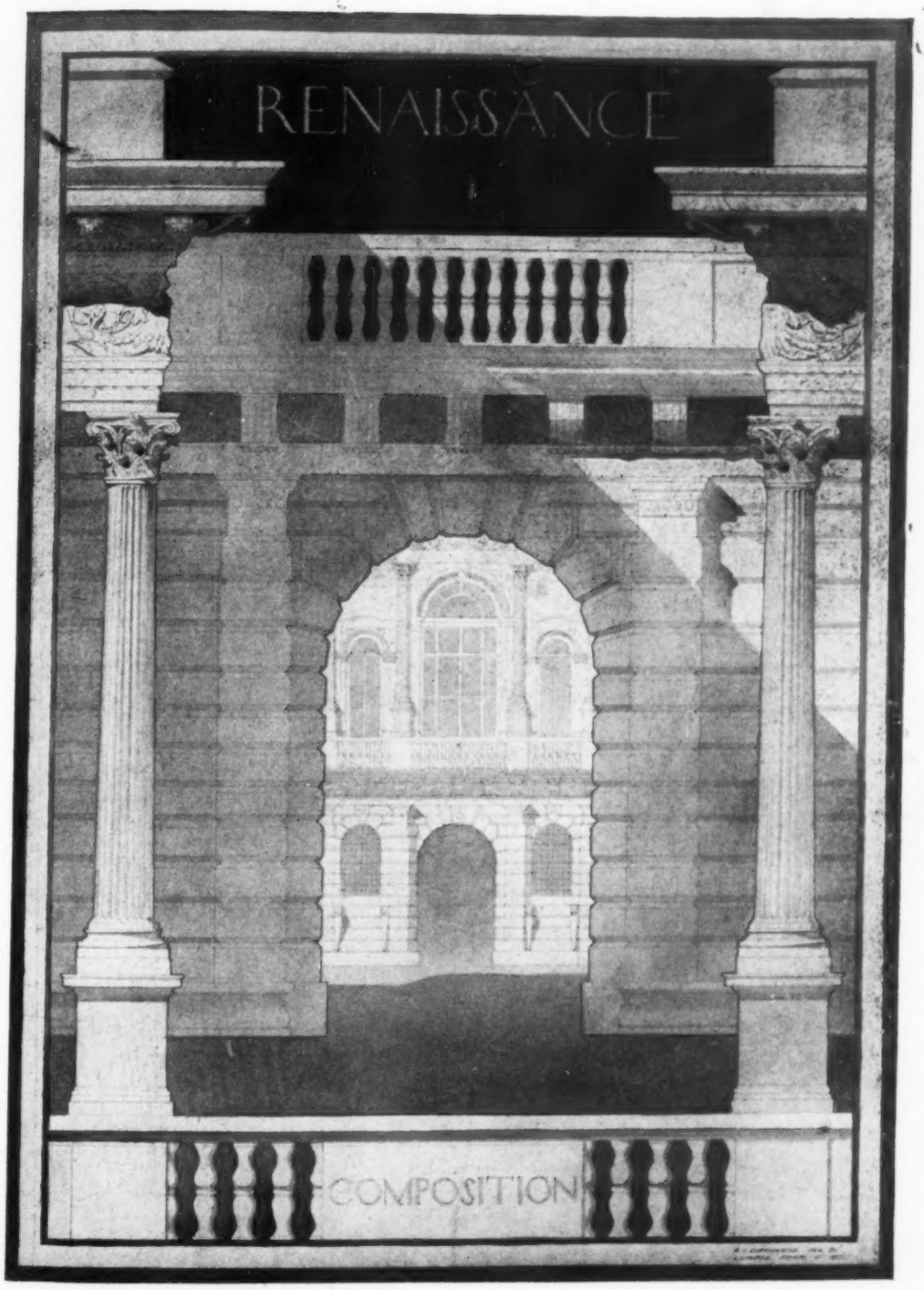

LIVERPOOL SCHOOL OF ART: DEPARTMENT OF ARCHITECTURE.

Composition in the Renaissance style.

By Mr. A. C. Greenwood.

[The illustrations on this and other pages are the work of ex-Service students who are taking a systematic course in the newly-formed Department of Architecture at the Liverpool School of Art, under the direction of Mr. Gordon Hemm. In the majority of cases the students had no previous training whatever in architecture. The session commenced in September last, and some remarkable progress has been made. The draughtsmanship, as seen by the illustrations, is direct and full of vigour, whilst the rendering of the shadows and general finish of the drawings would appear to be the work of third-year students, instead of those with less than six months' training. The designs display considerable judgment and resource on the part of each student, and embody much character and freshness of ideas. It is very gratifying to see such advancement in so short a space of time, and to witness the enthusiasm and great interest that each student takes in his studies. Other illustrations by ex-Service students will appear in a subsequent issue.]

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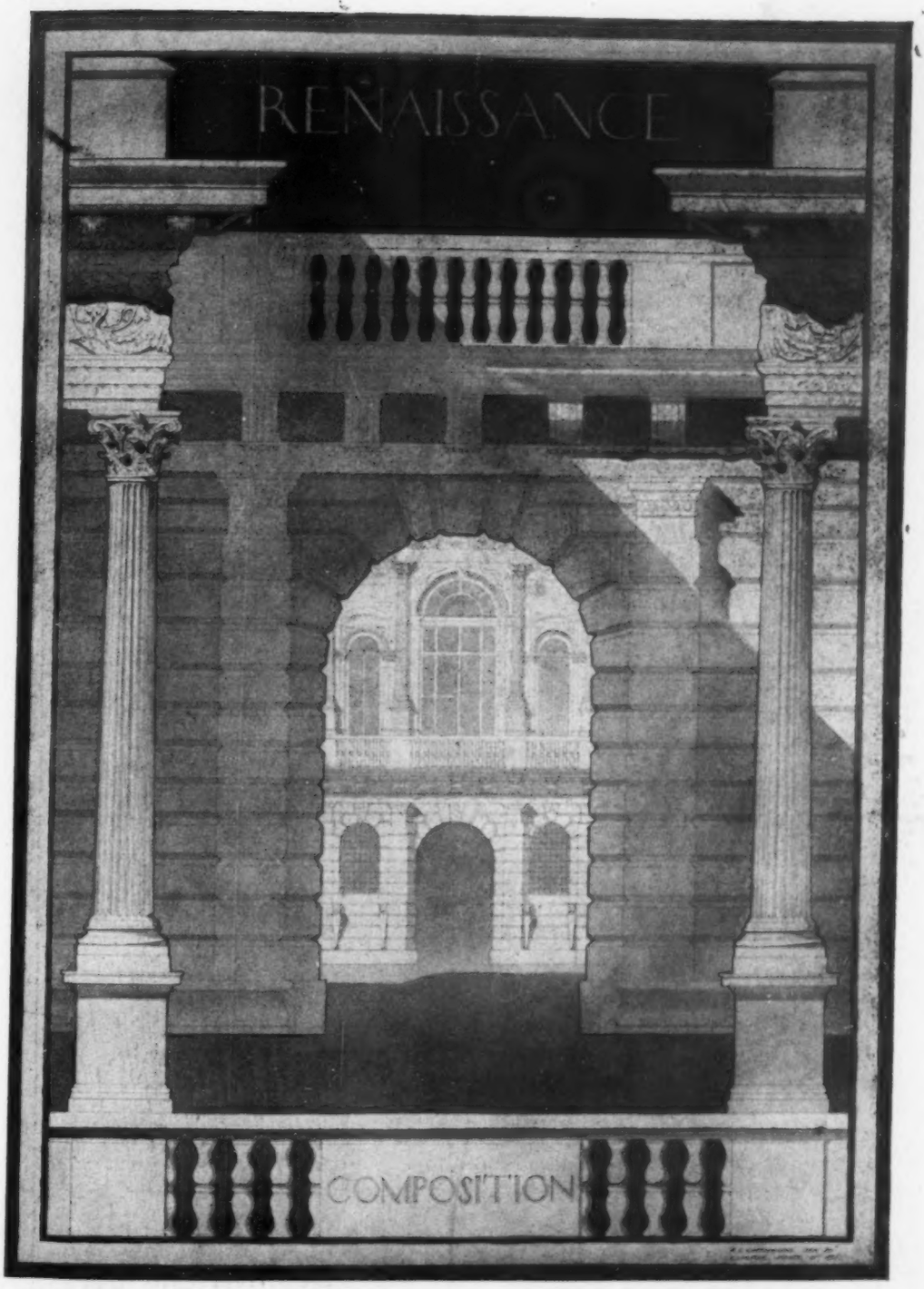

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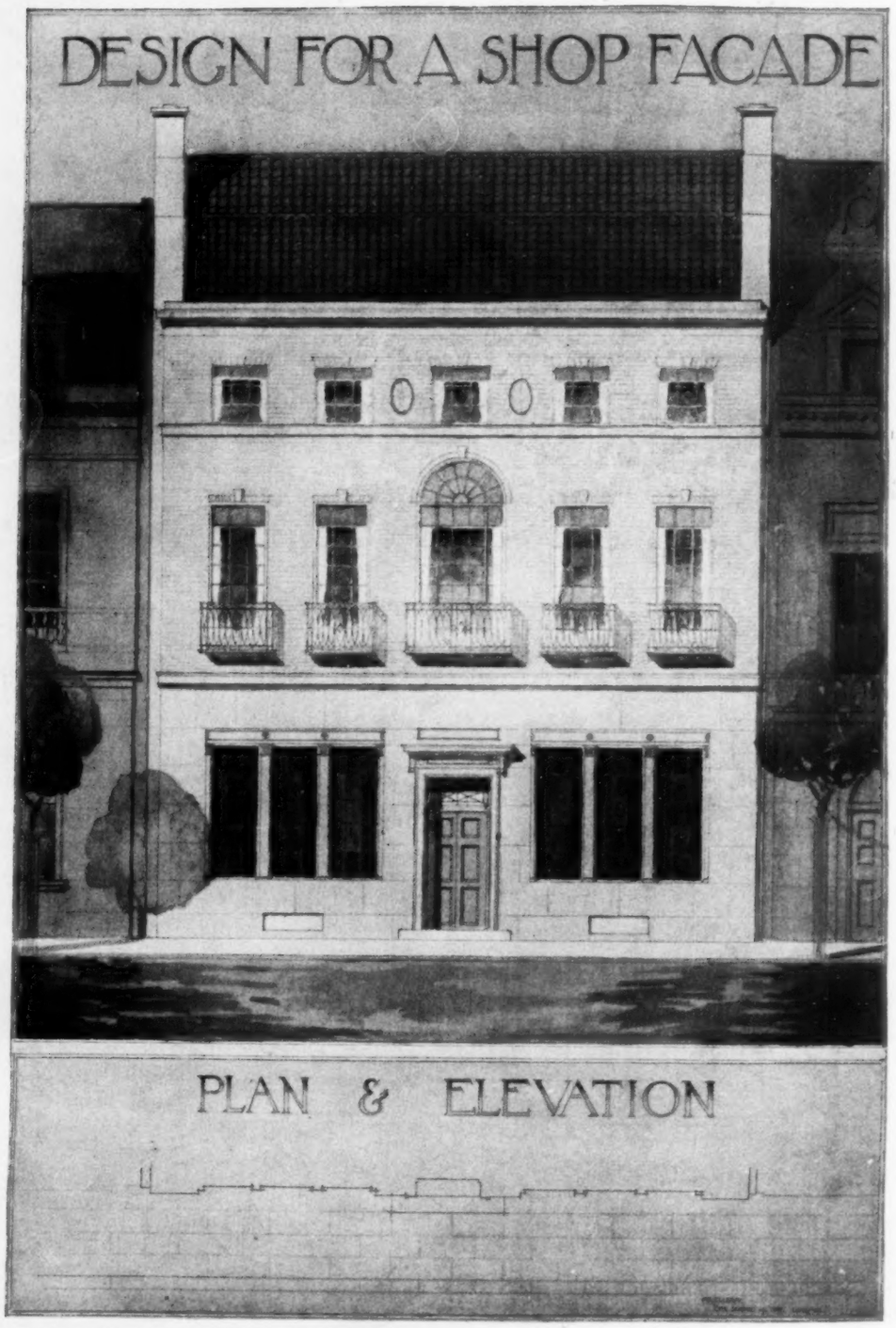
Composition in the Renaissance style.

By Mr. A. C. Greenwood.

[The illustrations on this and other pages are the work of ex-Service students who are taking a systematic course in the newly-formed Department of Architecture at the Liverpool School of Art, under the direction of Mr. Gordon Hemm. In the majority of cases the students had no previous training whatever in architecture. The session commenced in September last, and some remarkable progress has been made. The draughtsmanship, as seen by the illustrations, is direct and full of vigour, whilst the rendering of the shadows and general finish of the drawings would appear to be the work of third-year students, instead of those with less than six months' training. The designs display considerable judgment and resource on the part of each student, and embody much character and freshness of ideas. It is very gratifying to see such advancement in so short a space of time, and to witness the enthusiasm and great interest that each student takes in his studies. Other illustrations by ex-Service students will appear in a subsequent issue.]

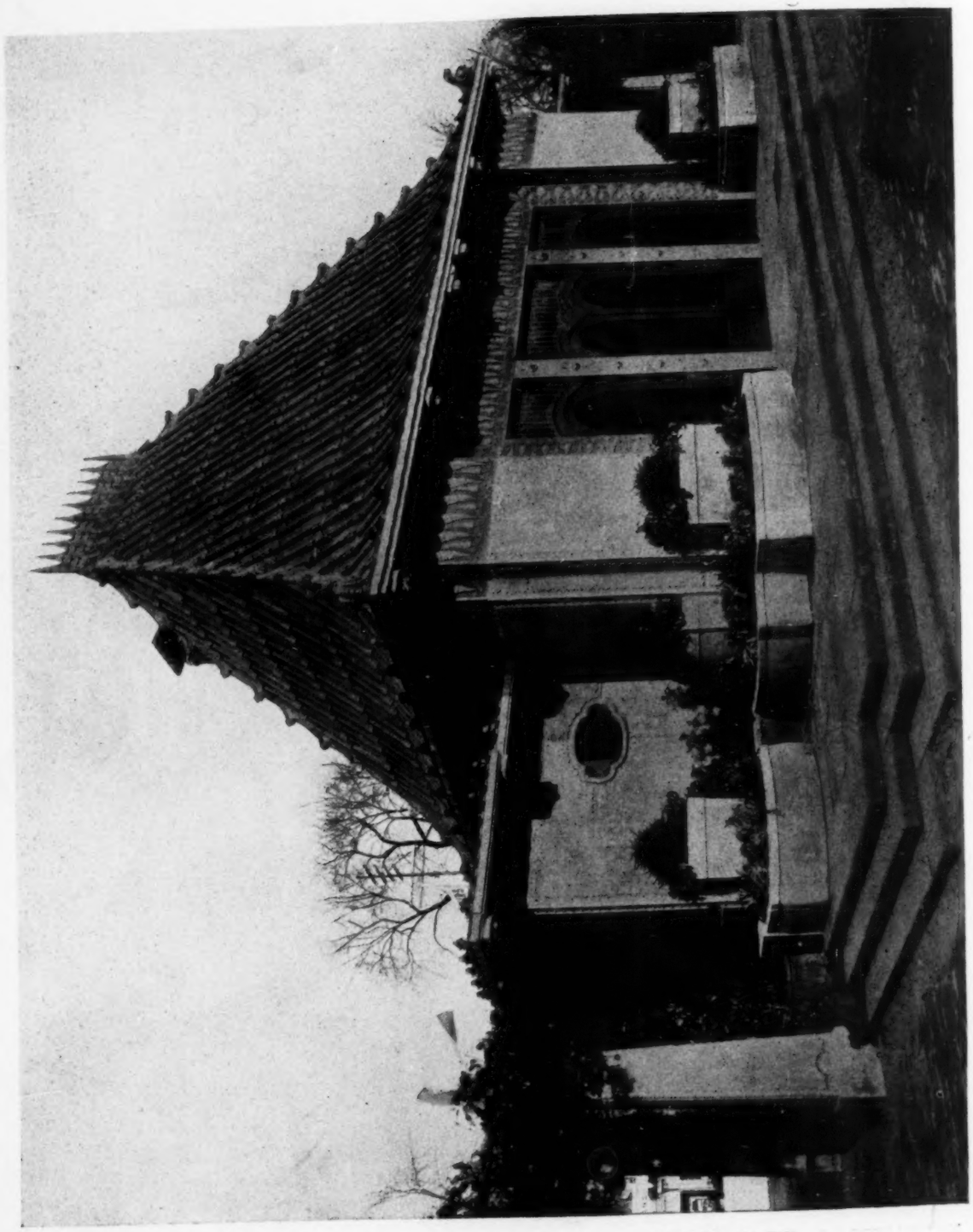


LIVERPOOL SCHOOL OF ART: DEPARTMENT OF ARCHITECTURE.

Design for a shop façade.

By Mr. F. R. Elleray. (*See page* 387.)

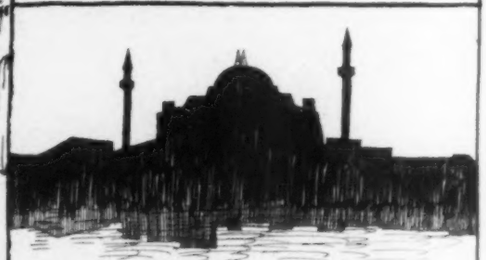
[This design, the work of an ex-Service student, was executed during his first term (first year).]



Metallised-Cement Decoration. (See page 386.)

STAMBOUL – THE WALLS of THEODOSIUS circa 430 A.D. – THE FOURTH MILITARY GATE.

"OLD & NEW in PERA"
The Flats by Gumusu Su & The Burnt Area from Lower end of Rue Sira Selvi.



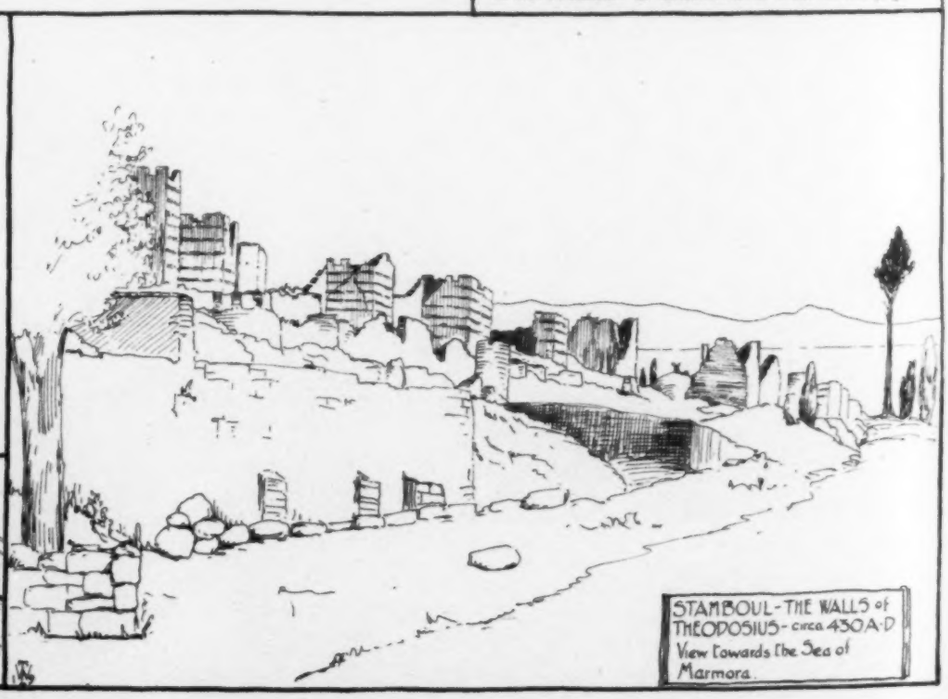
THE LAST IMPRESSION OF CONSTANTINOPLE – S. SOPHIA 26/10/19

In and around CONSTANTI-NOPLE *December 1918 to July 1919.*

BY

Wilfrid Travers

F.R.I.B.A. *Temp.* MAJOR, R.E.



STAMBOUL – THE WALLS of THEODOSIUS – circa 430 A.D. View towards the Sea of Marmora

PHOTO: THOS. LEWIS, LTD.

SION HILL, THIRSK—SOUTH FRONT. MR. W. H. BRIERLEY, F.S.A., ARCHITECT.

PHOTO: THOS. LEWIS, LTD

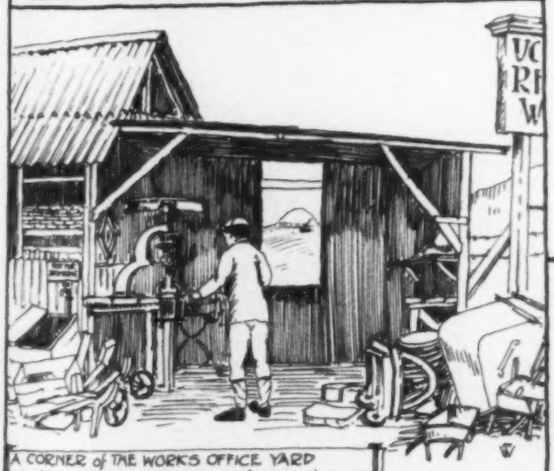
PULPIT: ST. PETER'S CHURCH, NORTON, MALTON, YORKS.

MR. W. H. BRIERLEY, F.S.A., ARCHITECT.

SION HILL, THIRSK—SOUTH FRONT. MR. W. H. BRIERLEY, F.S.A., ARCHITECT. PHOTO: THOS. LEWIS, LTD.

OLD CHURCH NEAR TO THE CITADEL, SALONIKA. Now (1918) Used for Housing Refugees.

"ΣΕΦΕΡ ΕΒΙ"
THE HOUSE ABOVE THE BIG ROCK AT DAUTBALI.



A CORNER of the WORKS OFFICE YARD AT UCHANTAR SHEWING MY 'SMITHS' SHOP

Leaves from a SALONIKA SKETCH BOOK

In and around The Base area.

BY Wilfrid Travers
F.R.I.B.A., Temp. Major R.E.

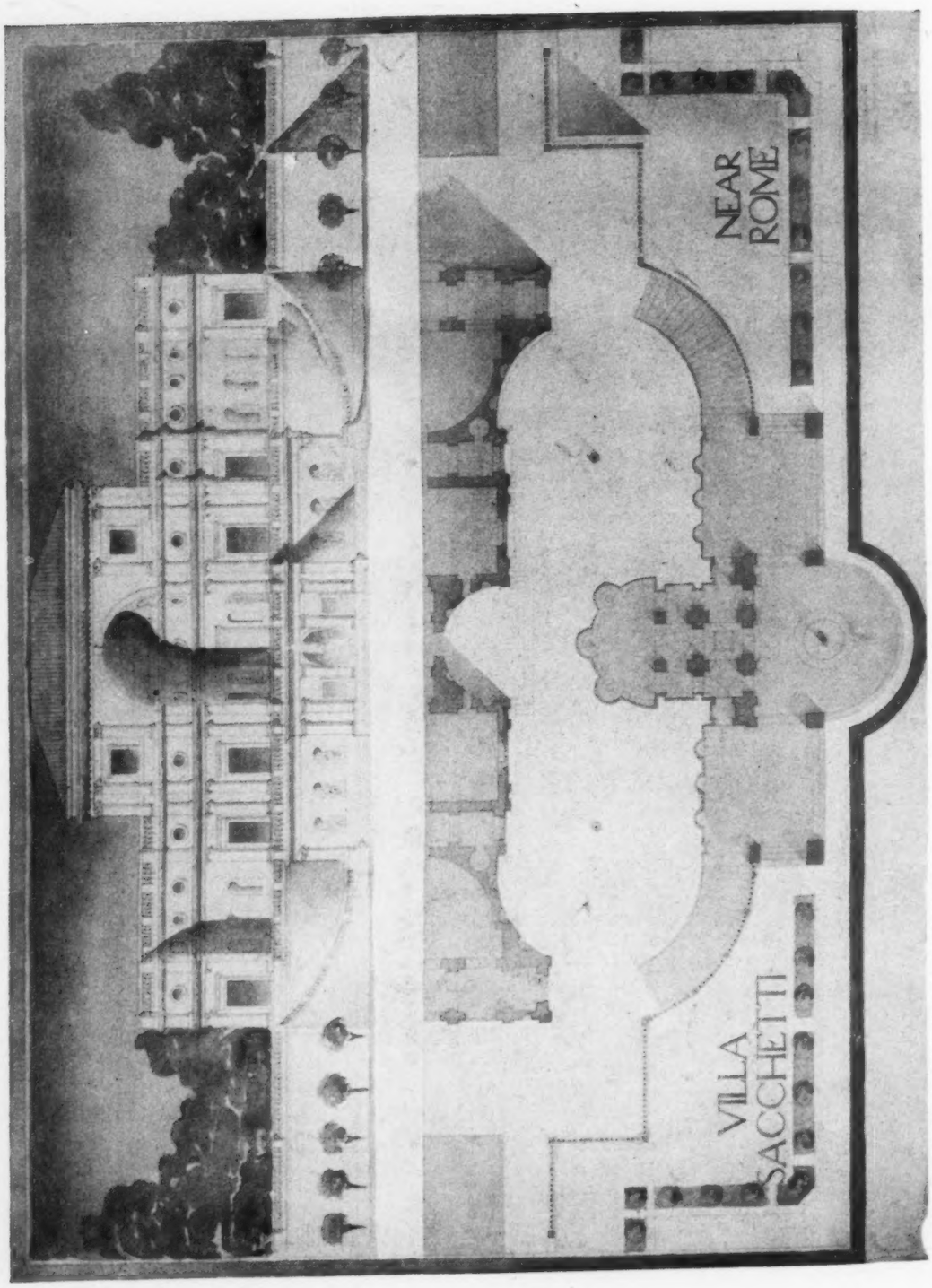
A STREET IN THE UPPER TOWN SALONIKA

SALONIKA CITY from Near The PIMPLE. UCHANTAR EXPERIMENTAL BRICKFIELD IN FOREGROUND - 1918.

Metallised-Cement Decoration. (*See page 380.*)

Design for a Mausoleum.

By Mr. M. Finberg. (*See page* 387.)



LIVERPOOL SCHOOL OF ART: DEPARTMENT OF ARCHITECTURE.

Study from the Villa Sacchetti, near Rome.

By Mr. T. Idwal Roberts. (*See page 387.*)

GREEK AFTERNOONS AT THE BRITISH MUSEUM.—IV.

By W. R. Lethaby.

Asiatic Greek Art and Oriental Culture.—It is difficult, at least for me, to gain a sharply-defined idea of what should be meant by "Greek." It is most simple to suppose that Greece was a European country which sent out colonies to the east and

FIG. 1.

the west, and that those colonies were dependent on the mother country for the things of the mind. It is not at all certain, however, when the eastern migrations occurred, and whether a more generally correct view would not be to suppose that the Greek tide flowed down the Asiatic shore as well as into the Peloponnesus—or at least that it directly overflowed European Hellas and passed into Asia in one movement.

In the period 2000-1000 B.C., while the Ægean culture had flourished, Asia Minor was the land of the Hittites. "The splendid Ægean civilisation had been mingling for centuries with the old Oriental civilisations, especially with that of the Nile, but also with that of Hittite Asia Minor, and through it with the civilisation of the Fertile Crescent" (Breasted). At about the time of the Greek invasion of the Ægean the Hittite world seems to have been strongly penetrated by a people kindred to the former. "Probably before 1500 B.C. these invaders had become so numerous that the Hittite communities began to lose their own tongue, and to speak the Indo-European language of the new comers. The Hittite tablets are in a language akin to Greek, as the new decipherment has recently shown" (Breasted, 1916. This is the last news of the ancient world, and a work by Dr. Hogarth on the Hittite inscriptions is announced). For the moment the most likely hypothesis is that "between

FIG 3.

1300 and 1000 B.C. the Greek tribes took possession of the islands as well as the coast of Asia Minor—the Dorians in the south, the Ionians in the middle, and the Æolians in the north. Here a memorable Greek expedition in the twelfth century captured the city of Troy. Between 2000 and 1000, the Greeks thus took possession of the entire Ægean world."

It follows from these words of Dr. Breasted's that early Greek culture was itself Ægean, like that which it superseded. It was a link, a bridge, between East and West; it was both European and Asiatic. The Asiatic side seems to have suffered less sudden change, and moreover, it remained in, or soon re-established, contact with the old civilisations of the East. Here, in what, by an extension of its proper meaning, we may call Ionia, the knowledge of the East was gathered, translated, and transmitted to the West. Astronomy was learnt from Babylonia and Egypt; the use of iron instead of bronze was adopted from the Hittites; the alphabet, improved ships, and the customs of commerce, were borrowed from the Phœnicians; stamped money was either taken over from the Lydians, or developed by the Greeks of Ionia themselves, in contact with Lydia. Here Homer sang. Here Thales was able to predict an eclipse in 583. Here Hecateus produced a map of the world. "These Ionian thinkers entered upon a new world of thought which we call *science* and *philosophy*."

The culture capital of this Asiatic Greek civilisation was Miletus. Athens maintained close touch with the Ionian States, and in some way, not clear to me, regarded herself as semi-Ionian. It was doubtless very largely in consequence of its contact with the East that Athens became the great culture centre of the classical age in Europe.

Early Ionian Art.—Scholars are in general agreement that early Ionian art was, in a large degree, a survival of Ægean. This was recognised by Lenormant and Furtwängler. Not only is this true of ornamental motives like the palmette, spiral, and rosette, but also of constructive traditions such as slanting door jambs, fasciæ, and dentils, dovetail attachments between stones, bands of sculpture and applications of bronze. It is quite probable that the volute form of capital had been developed in the Minoan Age. It has been shown, quite certainly, that it represents a lotus, and innumerable examples of such lily forms figured on vases and represented in minor objects make it next to certain that approximations to the volute capital must have been in use long before the date of any examples which remain to us. The architectural influence of the lotus is beyond estimate. (A reference must be made to Mr. Goodyear's "Grammar of the Lotus") Fig. 1 gives a few examples of the Egyptian treatment of the flower: *A* is a bunch represented naturalistically on a papyrus roll in the British Museum, dated 1050 B.C. In the alternation of expanded flowers with the buds we find the germ of all the classical palmette or anthemion patterns. In *B* we have the same lotus flower and stem serving as the source for a form of a wooden pillar in a shrine. It is from another similar roll, dated B.C. 970, also in the British Museum; this type of pillar was already known in the pyramid age. *C* is the termination of some small object which I drew in a sale room. In Fig. 2 are sketches from Assyrian furniture, as represented on the reliefs in the British Museum: *A* is from a throne, on the bar of which is a double volute form, and on the leg a collar of drooping leaves; *B* is a little lily capital, and *C* is another of drooping petals. Fig. 3 shows flowers from Cretan pottery, illustrated by Sir A. Evans in "Archæologia": *B* is a naturalistic and *A* a stylistic treatment. The latter stood straight on its stem, and there must have been some sense of its pillar-likeness in the mind of the painter. The open flowers in the "eyes" of the volutes are found again and again in Ionic capitals, and this vase painting furnishes, in fact, a valuable explanation of the origin of that type, one remarkable example of which is found in an archaic capital from Ephesus in the British Museum. On Fig. 4 are some small things found at Ephesus and a stele capital dug up in Cyprus, both by British expeditions. In *A* we have an ornamental lotus and bud pattern, which is hardly altered from the Egyptian picture (Fig. 1). *B* is the head of an ivory pin; it is clearly a lily

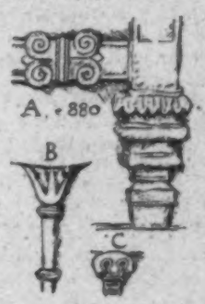
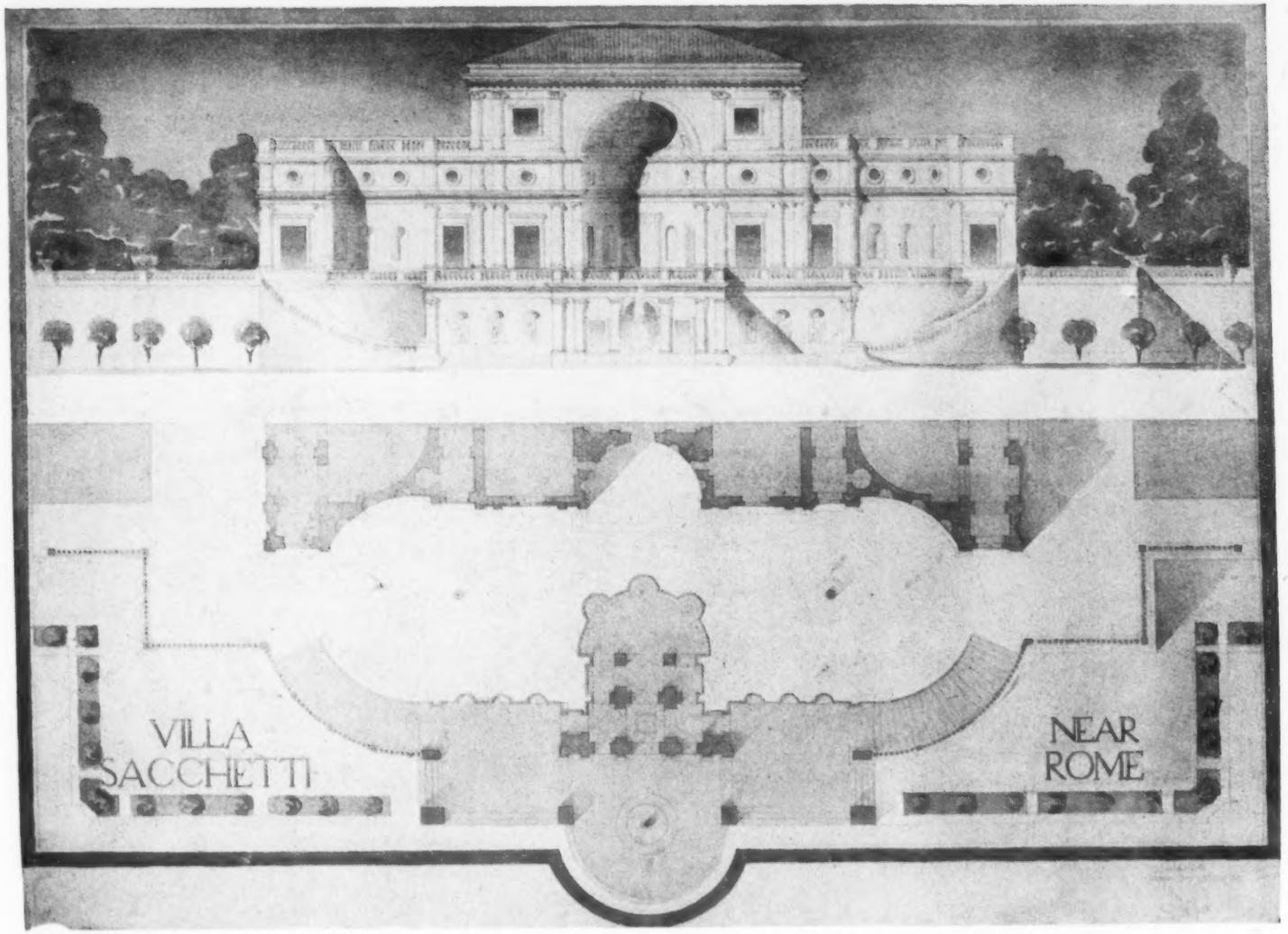


FIG. 2.

and it is a "capital," although a very small one. Notice the small appendages below the volutes, here and in Figs. 5 and 7 (*D*); these became the little palmettes which spring out of the opening volutes in the Ionic capital. *C* is an ivory disc carved into an open flower, each petal being edged with a little bead. This is the form in which the "egg and tongue" member, as we call it, first appeared, and that member really represents a band of turned-over petals. It would be much simpler and pleasanter to call it the petal-moulding, and this I shall venture to do. The leaf members on Fig. 2 are sources for the Lesbian leaf moulding, so much used in Ionic architecture. *D* is a scroll from a fragment of pottery found at Ephesus; the volutes of one of the capitals of the great temple were treated in the same way, the spiral line going on further than a rounded fillet. *E* may be compared with Fig. 5; the latter also from Cyprus, was carved on a large stone vase. Compare Fig. 5 also with Fig. 1 (*B*), and Fig. 4 (*A*). Fig. 6 is from one of the legs of the throne on which one of the archaic statues from Miletus in the British Museum is seated. It was clearly derived from the similar form shown on Fig. 2, and it lasted on into the latest Hellenistic days; this curious feature must have had a life of a thousand years.

Proto-Ionic Structures.—A painted pottery sarcophagus from Clazomene in the British Museum has two or three



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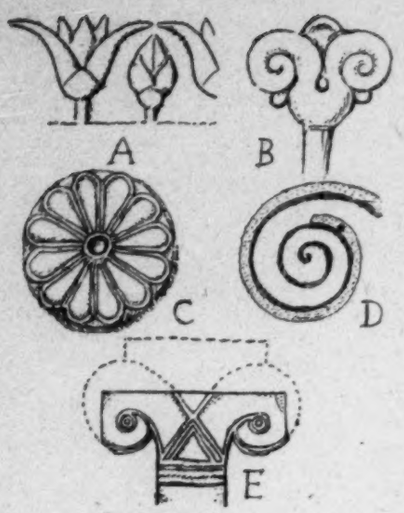

FIG. 4.

representations of Ionic pillars. It appears to be an early sixth century work. These Ionic columns (Fig. 7, *A*) served as goal-posts for chariot races. They stood on wide, spreading bases suitable for such isolated objects, and they supported large bowls. The base is in three degrees, the upper one being a bold torus member. Such torus bases, as Perrot has pointed out, were characteristic of Assyrian art. The shaft does not seem to diminish. The capital has volutes which spring vertically, and below them is a large necking or collar. *B* is from an Athenian vase of early fifth century work; doubtless the collar of *A* also was a petal-moulding. The early Ionic capital represented in *A* must have been like the sketch *C*. It is now generally accepted that capitals of which the volutes spring vertically preceded the form in which they spread laterally. This is much nearer the lily form, and several small archaic capitals of this type have actually been found. These are all figured and discussed in Perrot's seventh volume. The type has been, and may well be, called Proto-Ionic. The first found and best known example was discovered at Neandria, not far from Troy and Assos. Mr. Thatcher Clarke, the American student who found it, says: "The helix is exact and seems to have been determined by unwinding a cord." The eyes of the volutes were pierced right through the stone "for what purpose is not clear" (*A.J.A.*, vol. II). Mr. Clarke thought that this capital must have surmounted a tall column supporting a wooden beam. In his view the type originated in Mesopotamia and passed through the land of the Hittites to the coast of Asia Minor. The void "eyes," he thought, might have been filled with coloured material, but I would suggest that it is much more probable that in this type of capital the "eye" was the open space left in the centre of a petal-like spiral. The volute in origin was not considered as a fillet unwinding from a stud or boss, it was a "curl." The other examples of this type now known all have void or deeply pierced eyes. Of course, such volutes had no value as supports and only the central part of such capitals were prepared to bear any weight. The fragile character of the capitals in which the volute member is thin and, as it were, set on edge, suggests that it was derived from a slab-like original such as the Cyprus grave steles (Fig. 4). The wide-spreading base is also evidence that this type of column was developed from a free standing pillar such as Fig 7. The palmette type of grave stele must have been a parallel development from the same source. *D* in Fig. 7 is a pattern in relief on a thin gold plate in the British Museum, found in Cyprus. It is a very elegant variation of these "Ionic" lily motives and well suggests the flat and thin character of the original type. First painting led the way; then reliefs; then slab steles; then a slab-like member with vertically springing volutes was set on a slender pillar; then the type was taken over into structures and new modifications were made to unify and solidify it. A second element in the Ionic capital is the collar of drooping leaves or petals. This had its origin in such leaf collars and capitals as are shown on *A* and *C*, Fig. 2. Several capitals of turned over petals without volutes are known, forming a variety called the Æolic. Large and elaborate circles of leaves have been found at Neandria. These Koldewey thought were collars under the volutes before described, but Dorpfeld suggested that they were separate capitals. So many reasons

FIG. 5.

FIG. 6.

can be brought forward on both sides that I cannot even convince myself which is the more likely solution. It is quite evident, however, that the final development of the vertical volute type is that shown in *B*, Fig 7. The large necking of *A* was doubtless such a petal band as interpreted in *C*. The great mass of lore which has been collected on these lily capitals may be amplified from any museum. Egyptian, Minoan, Hittite, Assyrian and Phœnician art all made contributions to the development of the type. Doubtless the capitals adorned with lily work at the Temple of Jerusalem were related to the same class. To account for the permanence of the motive we must suppose that the lotus had some widely understood significance of sacredness, purity or resurrection. Only deep earth could nourish such a growth. (On Nature sources in Architecture, see Maürer.) The temple at Neandria, where the early capitals referred to were found, had been destroyed to the foundations, but enough remained to show that the Ionic pillars had been a central range which divided the cella lengthwise. Early temples of this type have now also been found at Troy, Sparta, Thermon, Locri, and (most recently) two at Prinias. In the little temple discovered by Dorpfeld at Troy (see "Troja," 1894) the columns were probably of wood; they stood on plain, circular bases like an inverted flower-pot, the lower part of which formed part of the paving of the cella. This base seems to be the most primitive native type; the torus must have been adapted from Oriental art. Both elements may be traced in the full-developed Ionic base. Dorpfeld assigned this temple to the sixth city or Homeric Troy.

The only observation I can add in regard to it is that the dimensions seem to have been set out according to the system described in my Part II. The porch was 2.05 m. deep; the column-base in the interior was 4.15 m. from the end wall; the width of the cella was 8.40 m. and 10.90 m. over the walls. It will be observed how a dimension about 2.05 m. is repeated, and this is almost exactly 7 Greek feet. It is true 10.90 m. is excessive, but this is a foundation measure, the frontage was possibly 35 feet wide (5 × 7). The total length of 20.07 m. at first sight seems to be ten times the unit, or 70 feet. It is, however, too little by about 1½ feet. Now, in working out the dimensions of the *primitive* structures at Ephesus I have found that the standard seemed to be a little less than the later foot. If we suppose that this was the case here by about a ¼ of an inch, and that the total length was intended for 70 feet, the shorter dimensions are still close approximations. If this were the scheme of setting out, and the structure is of the Ægean age, another link with the pre-Greek age would be established. It would also be interesting to find the dimensions based on the planetary number 7.

I have tried to show how the "Ionic Order," which we are apt to look upon as just a variety of "design" in Greek art, was in fact Asiatic and of great antiquity. Ionian art as a whole was a sister rather than a daughter of Doric art, and in many respects an elder sister. The sculptures of seated figures and recumbent lions from the sacred way leading to the temple of Branchidae, near Miletus, now in the British Museum, may serve as obvious examples of the absorption of Egyptian and Assyrian prototypes. The Lion tomb from Xanthus, close by, shows in the groups of a lion devouring an ox and a man attacking a rearing lion the taking over of other ancient Oriental motives—motives with meanings. Art cannot last without meaning.

After this general survey of origins and principles I hope now to examine some selected examples in the British Museum one by one.

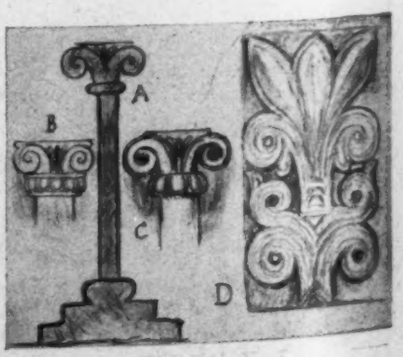

FIG. 7.

ELECTRICAL EQUIPMENT OF ARTISANS' DWELLINGS.

The following is an abstract of a paper read by Mr. Leonard Milne at the Institution of Electrical Engineers on March 25 :—

An artisan dwelling, on the average, would require 9 lighting points, and estimates for the internal installation work on various methods at present in vogue are as follows :—

	£	s.	d.
Cost of 9-light installation in screwed enamelled welded tube with 600-megohm grade C.M.A. cable of sizes conforming to the requirements of the I.E.E., including main switch and main fuses, distribution board, plain fittings, lamps and switches	19	13	8
The same in close-joint conduit with continuity fittings	14	1	0
The same in wood casing	16	3	0
The same with wires carried on porcelain cleats and unprotected except where they rise through floors and pass through walls	11	4	8

Wiring.—Examining the points where it would seem possible to effect a saving, I would first suggest that a main switch in these small dwellings, when lighting only is provided, could quite well be eliminated, substituting therefor two replacement fuses. On grounds of economy, some form of uncased cleat wiring must be used. A very large amount of work was carried out on this system for the War Office duringthe war, and although much of such work was carried out in the worst possible manner no fire or accident happened therefrom. It appears quite unnecessary to use such costly material as 600-megohm grade cable on the neutral side of systems where one pole is directly and permanently connected to earth, since at the outside we could only be dealing with differences of pressure of a very few volts between this conductor and earth; the insulation of the braiding of the wire and of the porcelain cleat would be amply sufficient for the neutral side. Those who have had occasion to change over the poles of an old installation on a three-wire system, and have noted how frequently it happens that on doing so the fuses are at once blown, will agree that there are to-day an enormous number of installations in which the insulation on the neutral side is practically nil, and yet in no case has it been observed that the occurrence of a fire was coincident with the development of a fault between the outer and neutral on the system.

In the case of twin wires, the minimum size permitted should be reduced from No. 18 to No. 20 S.W.G., since the mechanical strength of a twin 20 S.W.G. wire is at least equal to the mechanical strength of a single 18 S.W.G. A twin wire might be used, made up with one core of No. 20 S.W.G. insulated to 600-megohm grade with a bare No. 20 S.W.G. laid in long spirals around this, and the whole braided over all. Such a twin conductor, compared with two separate conductors of No. 18 gauge, effects a saving of 50 per cent. in the cost of wire. In such a building as we are considering, a No. 20 S.W.G. conductor is amply large enough to carry all the lights required at a pressure not less than 200 volts.

The saving due to the employment of twin wires is, with short runs, more than lost in labour and waste of material where switch drops are brought down to hand level. Where the switch branch leaves the main run the wires must be cut and rejointed, and between this point and the switch one core is wasted. I would therefore propose to dispense with switch drops, to place a combined switch and ceiling rose (or a switch and ceiling rose mounted together on the same block) on the wall near the ceiling level, and to operate the switch by a cord or rod attachment. The position of the combined switch and ceiling rose can generally be chosen so as to be close to the door of the room. From this ceiling rose I would run a twin flexible wire, passed over an insulated hook, directly to the point where light is required. This twin flexible I would again construct of one insulated wire and one semi-insulated wire. In this way a saving of 40 per cent. would be effected in the cost of flexible cords. A single wire run on single-way porcelain cleats is much less conspicuous and of better appearance than the usual two or three wires run side by side on two- or three-way cleats.

Where conductors run of necessity through floors, they should be protected up to the skirting level or possibly above hand reach, preferably in ⅜ in. insulating tube. They should also be protected in a similar manner where passing through walls. Such protection, primarily mechanical, would, with the braiding, provide for the otherwise bare conductor sufficient insulation to prevent electrolytic action. The total result of the economies suggested is that the cost of a 9-light installation as described would amount to £7, as against a sum varying from £19 13s. 8d. to £11 4s. 8d. for the cost of a similar installation on the recognised methods before referred to.

In each case the estimates are based upon the somewhat haphazard methods at present in vogue, in which there is practically no co-operation between the architect, the builder, and the electrician. I hope that we shall see closer co-operation between the architect, the builder, and the electrician, so that wood fixing blocks will be built in at all positions where fixings are required, and that passage ways will be left where necessary in all walls and ceilings. These fixings can be provided practically without additional cost as the building proceeds, whilst the labour of cutting away, and making good, amounts to approximately one-third of the total labour on the installation.

Doubtless one service would be arranged for a group of houses, and the supply from house to house of the group should be made by means of bare overhead wires carried on insulators attached to the chimneys of the buildings, and the supply should enter at the top of the house and not at the bottom, the supply authority's apparatus being fixed on the upper floor instead of on the lower floor. This arrangement has the further advantage of providing the driest position for fixing the supply authority's apparatus.

Heating.—As regards heating, we cannot anticipate the elimination of fires from rooms where heat is constantly required. In bedrooms where artificial heat is only required in case of sickness and on rare occasions, electric stoves are eminently suitable. Considerable economies in building would be effected by completely dispensing with chimneys and grates; and, with the one exception of the main living-room, this could be done with great advantage.

The cost of wiring with twin wires as previously described for the heating plug in each room from which a fireplace has been removed would amount to approximately 18s. per point, or £4 10s. for the house with five power points. Electric stoves and apparatus which are only occasionally used should be available on the estate for hire by the tenants.

Cooking.—There are on the market several satisfactory kitchen outfits suitable for a working-class family, and the cost of such an outfit, consisting of an electric oven 18 in. by 15 in. by 15 in. with four controls, boiling plate 18 in. by 10 in. with three controls, a grill 9 in. by 8 in. and a two-pint kettle, would amount to about £14 at present prices, and the daily consumption for cooking for a family of five would average about 7½ units per day.

Hot-water Supply.—The stumbling-block to electrical cooking, however, is the hot-water supply. There are several electric water-heaters on the market for which an efficiency of 90 per cent. or over is claimed when the apparatus is used to its full capacity over a period of 24 hours, and such an efficiency should be obtainable. A still higher degree of efficiency could doubtless be obtained without thermal storage, but it appears essential that some form of thermal storage be employed if electric heating of water is adopted.

To give a convenient supply of bath water, 18 gallons of water at a temperature of 104 deg. F. should be available within 10 minutes; and to provide this without thermal storage, even with a heater of 100 per cent. efficiency and assuming a temperature of 55 deg. F. for the inflowing cold water, would require over 15 kw. for 20 minutes. Such a load is not one that supply engineers would be prepared to take on at the low price which is essential if the electrical heating of water for domestic purposes is to come into general use. With thermal storage and a load factor of practically 100 per cent. a supply is even to-day obtainable at 1d. a unit; and with arrangements which would ensure that the water-heater load was off at times of peak load, I should anticipate that a rate of ½d. per unit or less would be quoted. Adopting the same figures for the adequate supply of water to a small house, namely, 50 gallons at a temperature of 104 deg. F., and taking an efficiency of 90 per cent., the cost at ½d. a unit works out at just over 6d. a day. Water heaters with thermal storage involve storage of heat either in the water itself or in a mass of cast iron raised to a comparatively high temperature, about 600 deg. F. The objections to thermal storage by means of the heated cast-iron block are the weight and bulkiness of the apparatus.

Although a domestic hot-water supply may be obtained more cheaply electrically than in any other way—6d. as against 7d. to 8d a day—the price is still somewhat high for an artisan family. The direction in which the final solution of the problem lies appears to be to fit a small boiler in the parlour grate, to store tepid water at, say, 80 deg. F. or 90 deg. F. in winter time, and to employ what may be called an electro-thermic booster to raise the tepid water to the required temperature. At 80 deg. F. to 90 deg. F. the radiation losses are small, and lagging of the cistern will be of minor importance. In summer time, when there is no parlour fire, a little more electric power will be necessary; this, combined with arrangements ensuring that the peak load is not overlapped, gives a most desirable load to the supply station.

Leaving out of consideration on both sides of the account the provision of a hot-water supply, the capital cost of the complete electrical equipment of an artisan's dwelling, including cooking apparatus, is practically covered by the saving on the building by dispensing with chimneys and grates.

THE SIR JOHN SOANE MUSEUM.

The Trustees of the Sir John Soane Museum have just published a new edition (the tenth) of the official Handbook of the Museum, in Lincoln's Inn Fields. Edited by the present Curator, Mr. Arthur T. Bolton, F.S.A., F.R.I.B.A., this "Description of the House and Museum, the Residence of Sir John Soane, R.A." is a reversion to the text of the quarto written by Sir John in 1835 but not published, only 150 copies being printed, and mainly distributed amongst his own friends. All that was of value in additions made to the first handbook of 1840 by former curators has been retained and several new features have been added. Besides an Introduction dealing with Soane's career in outline, there is a historical note on the house, illustrated by plans, showing the developments from 1792 to 1837, when Sir John died. The list of artists whose work is included in the Museum has been expanded by outline biographical details of their careers and works. An index of four pages is now given for the first time, the total number of pages has been increased from 95 to 128; there are 56 photographic illustrations of the house and its contents and 7 plans. The price of the Handbook is 1s. The remaining feature of Sir John Soane's quarto, the descriptive notes "by a Lady" (Mrs. Barbara Hofland) has already been separately edited by the Curator and is sold as a "Popular Description" at 6d.

THE HOUSING QUESTION.

We have received the following interesting letter from Mr. C. Wicksteed, of Kettering:—

"What can be more hopeless than the state of public and official opinion with regard to the housing question? Floating about on the surface of the trouble we find thousands of suggestions, lamentations and schemes, few of which touch the question. In the meantime, things are getting worse. Soon they will be desperate, and yet the real remedy and the actual cause is simplicity itself. The reason we cannot get cottages is because we will not pay for them. It is no good beating about the bush and thinking that to the other marvels achieved by the Government the housing of the people will be added. The plain fact is that Government action is, as usual, at the root of the trouble. Before the war, cottages in most parts of the country were let at far below their economic value, the reason being that in the beginning of the twentieth century the country was largely over-built. In the little town with which I am best acquainted, 300 houses were to let at that time, the consequence being that rents were gradually reduced. On the other hand, costs were gradually increasing, so that when the war broke out houses were letting at about 30 per cent. below their economic value, and were being sold at far less than cost.

"When munition work commenced, certain towns became crowded, and I think it was quite necessary for the Government to take some reasonable action to prevent the landlords unduly raising the rents. What they did, however, was stamped with their usual thoughtless haste. The first step they should have taken was to prevent the rents being raised above the economic value; in other words, not to allow more than, say, a 30 per cent. rise. Then, as the war continued, they should have allowed extra rent to be charged where more than a certain number of lodgers were taken. There was no restriction in this respect, and the tenants became profiteers at the expense of the landlords. In many of the munition centres, householders were getting more for each room (in some cases 25s.) than they were paying for the whole of the house, which, in the meantime, was being destroyed, the floors worn out, the skirting knocked to pieces, the fireplaces burnt out (when they provided fires, which, not infrequently, they could not "afford"), the hearths broken up, and the locks and all the fittings about the place destroyed. All this for a paltry 6s. or 7s. per week, when the inmates of the house might be earning anything from £50 to £100 per week between them. Will the Government ever learn that if there has to be profiteering it must be by the producers, not the middlemen, insomuch as if the producers get large profits they will produce more and ultimately ease the market, while nothing of the sort happens if the middlemen get it?

"As wages increased, the value of money decreased, and the rent of the houses should have been raised in proportion. Wages were constantly being raised because of the increase in the cost of living, but, through the action of the Government, these increased wages never allowed for any increases in rent; thus, if an increase of 5s. just balanced the increased cost of living, without paying any extra rent, 6s. should have been given, in order to pay an extra 1s. rent. This extra 1s., which, like other extras, should have been paid by the employer, the Government, in its wisdom, decided that the cottage owners should pay, and so we find young fellows of 18 and upwards, unattached, getting their 5s. increases periodically, and not a farthing going to those who provide them with shelter. In the meantime, cottage owners, tens of thousands of whom are poor men or widows with their lifes' savings invested in cottages, find their property wholly or largely confiscated. They alone amongst those who provide the necessities of life are to receive no more for what they provide, although the expense of the upkeep of their houses is increased and the purchasing power of their income decreased. If their tenant is a plumber, bricklayer or painter, he pays the same rent, but if the owner wishes to repair the house in which he lives the workman charges at least double what he did when the rents were settled. To paint, limewash and do up a cottage in the simplest manner now costs a year's rent. This amounts to bare-faced confiscation, as a consequence of which no cottages are being, or will be, built.

"We hear fine perorations about the abolition of slums, but these are as stupid as they are dishonest. The legislation of the present day makes the wholesale increase of the slum area a certainty, for the simple reason that the landlords cannot afford to keep their houses in order. Those who have mortgages on their houses will have no income at all. Of course, we hear on all sides that the workers cannot afford to pay any more rent for their houses. This is simply because the Government say they need not, and consequently give a smaller increase of wages than otherwise would have been necessary. People can afford to pay two or three times the money for their boots, clothes, and such things, because if they did not they would not get them. The Government knew this, and could not force manufacturers to provide things at a loss, but since the cottages were already provided and the owners helpless they put them out of the circle. Is it not obvious that it is fair and necessary that an increase of rent should have been allowed for in the increased wages that are now paid.

"The reason picture palaces are built instead of cottages is because the young men who get these high wages spend much of their money in these and similar places of amusement, and none of it in extra rent. After this they think it very hard when they get married that no cottages are provided for them.

"As far as my knowledge goes, the economic rent of houses all the world over is about one-fifth of the wages received, and, when you come to think of it, it does not seem an unreasonable proportion. When I was in America some years ago wages there were about the same as they are here now, but the house rents were not 6s., but £1, and that is what they will have to be here. What we have arrived at in England is this, that whereas before the war a working man would have to work one day per week to supply himself with his home, nowadays he only works three or four hours. Is this fair or reasonable? If the Government were to make up the deficit it would gradually land us into a subsidy of hundreds of millions. I am aware that what I am preaching is not popular, but is it true?

"I am also aware that before things settle down there will naturally be a great deal of hardship in the case of people who are not wage-earners—people who are already so hard hit. Consideration must be looked for here, but nothing can prevent hardship in a revolution of the sort we are going through now. Young married people of all classes are unable to get houses to live in. If the present system were leading us out of the wood we might bear with it, but it is only plunging us farther and farther into it, and we shall not see daylight until we change our course. We can as well afford to pay for our houses as we can for anything else. Anyway, if we do not we shall not get them, so we had better try.

"The Government has absolutely destroyed all private enterprise in this direction, and it will as completely fail to fill the vacuum so created as it has failed in every other constructive work. The absolute incapacity of the Government to deal with the situation is alarming and pathetic. Fine promises which have been made for years of garden cities, the abolition of slums, and all the rest of it, are gradually being boiled down; first, to smaller rooms; second, all manner of restrictions in regard to detail; third, to wooden cottages and navvy huts; and, finally, to an appeal and bribe to the individual builders to come in and help. In the meantime, the health and morals of people are being improved (?) by sleeping three deep, and the promised relaxations and amenities of life by the proposed prohibition of the building of places of amusement. Have we not manhood left amongst us to face simple facts and get rid of the idea that we can get things by fine speeches and promises which, as a matter of fact, are entirely beyond our reach unless we work and pay for them?

"Several things are necessary to obtain our goal, and all of these are within our power. To begin with, the builders must stop all restriction of output, freely dilute their labour, and do their best to do an honest day's work. Then the cost of building houses must be materially reduced. This, I am sure, is quite possible. The present haphazard methods are, and have been for a long time, a disgrace. The building trade, so far as ordinary cottages and residences are concerned, seems to have made no progress for a century, while other trades, engineering for instance, have increased their output per man many times in the same period. The remedy is simple. As far as cottages are concerned, they must be manufactured in properly equipped factories, and every pipe and every piece of wood made to an eighth of an inch and simply assembled *in situ*. The saving in plumbing alone, for instance, would be simply incredible. The position of the pipes should all be carefully designed by the best experts, instead of being left in the slovenly way they now are to the plumber to do the best he can without pulling down too large a proportion of the house to get his entrances. The engineer must be largely in evidence, not to take the place of the builder and architect, but to help.

"There are plenty of methods of building cheap, comfortable, and pretty cottages. They simply require the help of master minds who will go thoroughly into the most minute details, the employment of the best machinery, and the obtaining of the hearty good will of the workmen."

COMPETITION NEWS.

Batley.

Members of the Royal Institute of British Architects, and the Society of Architects are requested to take no part in the Ward's Hill (Batley) Improvement Competition without first ascertaining from those bodies that the conditions have been approved.

Bradford-on-Avon (Wilts.).

For the War Memorial Committee.—Design for a war memorial. Premium 25 guineas. Sending-in day, May 8. (See our issue for March 5.)

Hornsey.

For the War Memorial Committee.—Designs for a war memorial. Sending-in day April 20. (See our issue for March 5.) The R.I.B.A. and the Society of Architects advise their members to take no part in the competition until conditions are revised.

Kenilworth.

For the War Memorial Committee.—Designs for a war memorial. Premiums, £30 and £25. Mr. H. T. Buckland, F.R.I.B.A., will act as assessor. Sending-in day April 14. (See our issue for March 26.)

Chichester.

Members of the Society of Architects are requested not to take any part in the Chichester War Memorial Competition without ascertaining from the Society that the conditions have been approved.

Sidcup.

For the War Memorial Committee.—Designs for a war memorial to cost about £800. Sending-in day May 7. (See our issue for March 26.)

Sheffield.

For the City Council.—Designs for war memorial halls. Sending-in day, July 31. (See our issue of March 5.)

Cleethorpes.

The Royal Institute of British Architects advises its members to take no part in the Cleethorpes War Memorial Competition until the conditions have been revised.

HOUSING AND TOWN-PLANNING NOTES.

London.

The Housing Committee has recommended the London County Council to acquire a site of from 60 to 70 acres of land at Castlenau, Barnes, at a cost of about £150,000 for the purpose of a housing scheme.

The Minister of Health has urged the L.C.C. to acquire a site at Grove Park, Lewisham, for housing purposes, and the Housing Committee has recommended the Council to adopt the proposal.

The estimated capital expenditure of the L.C.C. for housing purposes for the year 1920–1921 is estimated at £6,753,360.

"Cost-plus-percentage" Contracts at Bristol.

The Housing Committee has reported to the Bristol T.C. that it proposes to undertake the erection of 1,000 brick houses and 500 concrete houses this year. In conjunction with the Bristol Master Builders' Association, the Committee has prepared a scheme whereby the builders will be paid the cost price of labour and materials plus a profit of £40 per house and £6 for the use of plant. Allowance will be made for increases in the cost of labour and materials which may arise after the date on which the schedule of prices is based. If the cost is less than the basic price, the contractor is to receive one-quarter of the saving; but if the cost exceeds the basic price, then for every 2½ per cent. by which the price is exceeded the contractor is to forfeit one-fifth of the sum which that percentage represents, except that in no case will the profit be less than £20 per house.

Proposed New London Garden City.

It is reported that it is the intention of the Woods and Forests Department to create a garden city of working-class flats around Cumberland Market, Regent's Park, on land belonging to the Crown. It is stated that Professor S. D. Adshead has already prepared plans for the three-storied flats which it is proposed to erect.

Manchester Director of Housing.

The Manchester Housing Committee has recommended the Town Council to appoint Lieut.-Col. Stephen Smith, of Edinburgh, as Director of Housing, at a commencing salary of £1,250. Lieut.-Col. Stephens, whilst in the Royal Engineers, designed and superintended the construction of the Knotty Ash Camp, Liverpool.

Direct Labour at Manchester.

The Manchester Housing Committee has recommended that Mr. L. Watson, who is at present secretary of the Operative Bricklayers' Society in the Manchester area, be appointed manager of labour under the Corporation in its building undertakings. The salary is to be £750 per annum, and it is understood that Mr. Watson will sever his connection with the trade union if the appointment is confirmed. The Corporation is considering a scheme for the erection of 500 houses by direct labour, and Mr. Watson's duty would be to engage and supervise the labour generally in these operations.

New Methods and Materials.

The following new methods of construction has been approved by the Standardisation and Construction Committee of the Ministry of Health:—

Thornley, Mott & Vines, Ltd., Westminster.—"Aero" blocks with two or more rows of air spaces with dividing walls and webs so arranged as to form a continuous air cavity throughout the wall when built; the blocks have tongues on the upper surfaces and grooves on the under, which fit together and assist in keeping a true face to the wall as it is being built.

WEEKLY HOUSING RETURN.

During the week ended March 20, tenders were submitted to the Ministry of Health for 12,315 houses. Tenders for 11,095 were approved, bringing the total number of houses in tenders submitted to 93,745 and in tenders approved to 85,265. Inquiries are being received from persons who wish to borrow money to enable them to build houses which shall qualify for the free grant offered by the Government to those completing houses this year. The Ministry has ascertained that some building societies are prepared to make advances up to 75 per cent. of the cost of building to a person who wants a house for his own occupation. Advances to builders will also be considered, and some societies may be prepared to lend up to 75 per cent. of the reduced cost (*i.e.*, cost of building, less the Government grant). Banks also are willing to consider requests from builders as soon as the plans for the houses have been approved by the local authority. Details of local authorities' schemes dealt with during the week are as follows:—

Building Sites.

Schemes Submitted.—The number of schemes submitted was 146, bringing the total to 9,155 (61,500 acres).

Urban.	Acres.
Swansea (10 sites)	262.99
Liverpool	184.00
Yiewsley (2)	62.02
Leicester (3)	59.34
Blaydon	16.78
Abram (3)	14.00
Dawley (2)	13.69

Rural.	Acres.
Brandon (11 sites)	23.50
Ashby-de-la-Zouch (6)	17.26
Lanchester (2)	10.98
St. Asaph (Denbigh) (7)	10.50

Schemes Approved.—The number of schemes approved was 136, bringing the total to 5,215 (about 42,000 acres). Larger schemes newly approved are as follows:—

Urban.	Acres.
Tynemouth	90.00
Stoke-on-Trent	44.68
Dudley	33.00
Tanfield (2 sites)	25.50
Witham	19.72
Morecambe	11.82
Nuneaton	10.07

Rural.	Acres.
Llandaff and Dinas Powis, Llantrisant and Llantwit Fardre	23.51
Oswestry	21.20
Chesterfield	18.33

Lay-Outs.

Schemes Submitted.—One hundred and four schemes were submitted, bringing the total to 2,223. New schemes are as follows:—

Urban.—Bourne, Dawley, Derby, Durham, Felixstowe, Glossop, Haslemere, Hetton, Kington, Lampeter, Leiston-cum-Sizewell, Long Eaton, Mitcham, Sherborne, Shoreditch, Slough, Stalybridge, Stanhope, Stanley, Wellington, West Bridgford, Yiewsley.

Rural.—Amersham, Auckland, Banbury, Basford, Billesdon, Bosmere and Claydon, Bourne, Braintree, Brixworth, Chelmsford, Christchurch, Dartford, East Elloe, East Stow, East Westmorland, Ely, Evesham, Gnosall, Grantham, Headington, Henley, Lanchester, Llandaff and Dinas Powis, Mountain Ash, Plomesgate, Romford, Sedgfield, Shifnal, Settle, Tendring, Wath, Westhampnett, Wing, Witney, Woodstock. County Council.—Derby.

Schemes Approved.—The following schemes were approved, bringing the total to 2,657:—

Urban.—Barnes, Barnsley, Bourne, Congleton, Crompton, Dawley, Derby, Halesworth, Hastings, Kington, Long Sutton, Marlborough, Middleton, Mitcham, Ormskirk, Rochdale, Sherborne, Shoreditch, Slough, Stalybridge, Surbiton, Thornaby-on-Tees, Wantage, Witney.

Rural.—Amersham, Banbury, Basford, Billesdon, Bingham, Blything, Bosmere and Claydon, Braintree, Brixworth, Chapel-en-le-Frith, Chelmsford, Chester-le-Street, Chirk, East Elloe, East Retford, East Stow, Ely, Evesham, Farnham, Gnosall, Headington, Henley, Henstead, Howden, Loddon and Clavering, Newtown and Llanidloes, Penybont, Plomesgate, Shifnal, Smallburgh, South Stoneham, Stokesley, Stow-on-the-Wold, Tendring, West Lancashire, Whiston, Wing, Witney, Woodstock. County Council.—Derby.

House Plans.

Schemes Submitted.—Schemes representing 12,538 houses were submitted. The total now represents 163,692 houses. New schemes are as follows:—

Urban.—City of London, 1,600 houses; London County Council, 3,550; Appleby, 12; Barnsley, 76; Battle, 60; Bedford, 8; Bexley, 426; Bourne, 8; Bootle, 46; Derby, 22; Glossop, 44; Greenwich, 207; Hammersmith, 413; Haslemere, 2; Kensington, 20; Kington, 30; Leiston-cum-Sizewell, 136; Letchworth, 29; Littlehampton, 60; Liverpool, 360; Mitcham, 162; Newport, 16; Northwich, 200; Old Fletton, 40; Ramsgate, 26; Rochdale, 385; St. Neots, 73; Sevenoaks, 18; Sherborne, 12; Shoreditch, 50; Slough, 30; Stanhope, 12; Street, 122; Surbiton, 86; Teddington, 24; Tenterden, 40; Tottenham, 600; Walthamstow, 80; Wandsworth, 232; Wealdstone, 124; Willesden, 525; Woodford, 275; Woolwich, 1,200.

Rural.—Amersham, 12 houses; Banbury, 26; Beaminster, 10; Bicester, 42; Bosmere and Claydon, 22; Braintree, 20; Brighouse, 15; Brixworth, 38; Chelmsford, 12; Christchurch, 10; Dartford, 110; Dursley, 62; East Elloe, 22; East Stow, 44; E. Westmorland, 32; Ely, 22; Evesham, 142; Gnosall, 64; Gwyrfai, 7; Henley, 8; Honiton, 34; Hungerford 40; Newton Abbot, 40; Plomesgate, 32; Shifnal, 50; Tavistock, 6; Tendring, 16; Tonbridge, 68; Wath, 8; Westhampnett, 24; Wing, 16; Witney, 2; Woodstock, 4. County Councils.—Derby, 15; East Suffolk, 21; Oxford, 1.

Schemes Approved.—Schemes representing 13,025 houses were approved. The total now approved represents 151,700 houses.

Urban.—City of London, 2,000 houses; L.C.C., 3,550; Alderley Edge, 28; Barnes, 98; Barrow-in-Furness, 113; Berwick-on-Tweed, 24; Bexley, 426; Bootle, 46; Bourne, 8; Bracebridge, 38; Bushey, 66; Congleton, 40; Denholme, 24; Derby, 22; Greasborough, 20; Greenwich, 207; Halesworth, 14; Hammersmith, 413; Hastings, 72; Kensington, 20; Kingston-on-Thames, 199; Kington, 30; Lambeth, 92; Letchworth, 33; Long Sutton, 8; Lowestoft, 48; Mitcham, 160; Neath, 160; Nottingham, 16; Old Fletton, 40; Otley, 124; Ramsgate, 26; St. Neots, 73; Salford, 318; Sawbridgeworth, 16; Shoreditch, 50; Slough, 30; Sowerby Bridge, 13; Street, 122; Surbiton, 136; Teddington, 24; Tenterden, 40; Tottenham, 600; Walthamstow, 80; Wandsworth, 232; Wealdstone, 124; Willesden, 525; Woodford, 275; Woolwich, 1,200.

Rural.—Amersham, 12 houses, Banbury, 26; Beaminster, 6; Blything, 4; Bosmere and Claydon, 22; Braintree, 20; Brixworth, 8; Chelmsford, 6; Dursley, 62; East Elloe, 22; East Stow, 44; Ely, 22; Evesham, 142; Farnham, 22; Gnosall, 64; Gower, 78; Headington, 16; Henley, 8; Henstead, 4; Howden, 20; Loddon and Clavering, 6; Newton Abbot, 40; Penybont, 60; Plomesgate, 24; Plomesgate, 8; Sherborne, 12; Shifnal, 50; Smallburgh, 4; South Stoneham, 30; Tendring, 10; Tonbridge, 68; Warminster, 14; Whiston, 4; Wing, 16; Witney, 8; Woodstock, 4. County Councils.—Derby, 15; East Suffolk, 21.

THE RENT ACTS: HOUSES CONVERTED INTO FLATS.

WE have already drawn attention to the case Woodward *v.* Samuels (*Weekly Notes*, Feb. 21), but the decision in that case has such extraordinary results that we must deal with it in greater detail. The facts are simple. The defendant was from some time before August 3, 1914, until the beginning of the year 1919 tenant of a three-storied house at Willesden Green, the rent being £45 per annum and the rates and taxes amounting to about £30 per annum. He then purchased the house and converted it into three flats, laying on gas to each floor, carrying the water supply to the top of the house and supplying gas cookers to each floor. The cost of the alterations was £30 to £35. He let the ground floor at 23s. a week, the first floor at 22s. to the applicant in this action, and the top floor at 13s. The defendant paid the rates and taxes.

The applicant, who had become tenant of the first floor, claimed that the rent he paid (22s.) was in excess of the "standard rent," as fixed by the Increase of Rent Acts, and he applied to the County Court for an apportionment of the rent of the house (£45) between the three flats. The County Court Judge held that the applicant's flat was first let as a separate dwelling-house when the applicant's tenancy commenced in June, 1919, and that the rent at which it was let (22s.) was the "standard rent." The applicant appealed and the Divisional Court allowed the appeal. By section 2, subs. (2) of the Act of 1915, the Act shall apply to a house or a part of a house let as a separate dwelling, and every such house or part of a house shall be deemed to be a dwelling house to which this Act applies. By section 4 of the Act of April, 1919, the Principal Act is extended to houses or parts of houses in the Metropolitan area where "both the annual amount of the standard rent and the rateable value of the house or part of the house exceed £35, and neither exceeds £70."

It may be observed that as these sections read it would appear that the limits prescribed might apply to each part of a house let separately which, in the case of premises let in flats, would considerably extend the operation of the Acts, but this point has so far never been raised, and some meaning must be given to section 2, subsection (3) of the Principal Act, under which the Court acted in this case. That subsection is "Where for the purpose of determining the standard rent or the rent on May 31st, 1914, or in the case of a dwelling house first let after that date the rent at which it was first let or rateable value of a dwelling house to which this Act applies it is necessary to apportion the rent at the date in relation to which the standard rent is to be fixed or the rateable value of the property in which that dwelling house is comprised, a County Court may, on application of either party, make such apportionment as seems just, and the decision of the Court as to the amount to be apportioned to the dwelling-house shall be final and conclusive."

It is arguable that, as the Acts treat every part of a house let separately as a separate dwelling-house, this subsection does not apply to an apportionment of the rent of the whole house between the various parts, when a separate dwelling house is constituted and another application still can be found for the subsection, for the Acts provide that they shall apply to a house or part of a house let as a separate dwelling "where such letting does not include any land other than the site of the dwelling-house and a garden within the curtilage of the dwelling-house," and we submit, especially having regard to the words in the subsection, "it is necessary to apportion the rent at the date in relation to which the standard rent is to be fixed," that the subsection was intended to apply in fixing the original "standard rent" where there was other land not included in the letting or a garden not let to the particular tenant, but on August 3, 1914, all valued for rates or rented as one property. In such a case the rent of the whole property and the rateable value would have to be apportioned according to the extent of the property let to different tenants, *i.e.*, one might have the garden whilst another had not.

This was not the interpretation placed upon the subsection by the Court, even if the point was brought before the Court in argument, for according to the report of the case the Court read the subs. as follows: "Where for the purpose of determining the standard rent of a dwelling-house—here the appellant's flat—it is necessary to apportion the rent—which in this case was £45—at the date in relation to which the standard rent is to be fixed—here August 3, 1914—of the property in which that dwelling-house is comprised—here the undivided house—the County Court may make an apportionment." Thus the Court held that the flat could not be considered on conversion as a separate dwelling-house as distinct from the whole house, and the rent of the whole house fixed by the Acts as the rent on August 3, 1914, must be apportioned between the flats. The result of this finding was fully recognised by the Court, for they pointed out that as, in consequence, the landlord could recover in increased rent but six per cent. of the amount expended on structural alteration, no landlord would convert houses into flats on such terms, and the much-needed housing accommodation would not be provided.

The case is, therefore, of the greatest importance, and although we have ventured to indicate that a reading of the Acts is possible which would obviate this result, this decision is authoritative and stands in the way of houses within the Acts being converted into flats.

VENDOR AND PURCHASER.

A POINT of interest in these days when houses are being sold which have been in military occupation was decided in the case *re* Lyne-Stephens and Scott-Millers Contract (*Weekly Notes*, February 28). A freehold house and grounds were sold by auction and the particulars of sale stated that the property was "let on lease expiring September 29, 1919, at a rent of £500 per annum, and to be sold with possession on completion of the purchase." The conditions of sale stated that completion should be made on September 29, 1919, *i.e.*, the date the lease terminated. Another condition was "Possession or receipt of the rent and profits will be retained and all outgoings discharged by the vendor up to September 29 next, and as from that day the outgoings . . . shall be discharged by the purchaser and possession shall belong to the purchaser. . . . But the purchaser shall not be let into actual possession of the property until completion of the purchase."

The premises, having been in military occupation, were in very bad repair, and the lessee under the lease was under obligation to repair. The auctioneer at the sale had stated that the premises were in very bad repair. Between the date of the contract and completion it had been agreed between the vendor and the lessee that the sum due from the latter under the lease was £2,060, and that sum had been paid into a joint account, the rights of the vendor and purchaser being reserved. The purchase was completed on September 29. The purchaser took out this summons under the Vendor and Purchaser Act, 1874, for a declaration that he was entitled to any sum paid by the lessee after the date of the contract in respect of the breaches in the lease to repair.

The Court of Appeal, affirming the Court below, held that the sale of the house was altogether independent of the lease, the property not having been sold subject to and with the benefit of the lease, and therefore the claim failed.

The City Churches.

It is now reported that the Commission which is inquiring into the necessity for the retention of the present number of churches in the City of London is likely to recommend the removal of a number largely in excess of the three or four churches suggested in the forecast last week.

BOOKS.

Detail Design in Reinforced Concrete. By E. S. ANDREWS, B.Sc. London: James Selwyn & Co. Price 6s. net.

This little book is a reprint of a series of articles which appeared in our contemporary, *Concrete and Constructional Engineering*, and forms a series of practical examples worked out in accordance with the rules of the L.C.C., "the only detailed regulations issued by local authorities in this county"—we presume a misprint for country. Chapters 1 to 3 deal with the design of a workshop floor, while the remaining three chapters are concerned with pillars and their footings and, finally, retaining walls. It is assumed that the reader has an elementary knowledge of mechanics sufficient to appreciate such things as bending moments. The book contains a number of useful diagrams and graphs to reduce arithmetical calculations. It is one thing to read without understanding a book on the theory of this form of design and quite another to work out concrete examples of the application of these principles, and we think that many who have to master this form of construction in detail will find the study of these specific examples of great assistance.

Limes and Cements. By ERNEST A. DONCASTER, B.Sc. London: Crosby Lockwood & Son. 2nd edition. Price 7s. 6d. net.

This book of some 200 pages deals with the manufacture, composition and uses of various cementing materials, and it is a pleasure to be able to endorse the author's claim to have brought his book on this important subject up to date, for all too often books are republished under current dates with the merest apology for revision, which, in the case of a technical subject, is most inexcusable. A short historical introduction is followed by chapters on the chemistry and classification of limes and on the composition of rocks from which limes are derived. Various kilns and other plant are then discussed and illustrated, suitable for limes and Portland and natural cements. Though the big rotary cement kiln is, as described, the most modern invention, we know at least one firm doing successful trading, which erected during the last few years kilns of a stationary and intermittent type. The important and still unsolved question of the composition of Portland cement is dealt with in a useful *résumé*, with references to the work of various authorities up to 1919. Super-cement receives notice, after which natural cements, plasters and their commercial preparation, pozzolanas and other like materials are discussed. Short chapters follow on mortars, concrete, plastering and stuccos, and three pages on waterproofing. Bituminous substances are given a few pages, and a short account of efflorescence is followed by chapters on chemical and mechanical tests for Portland cement. The book is quite within the scope of readers who have no great technical knowledge, and contains a great deal of useful information in a reasonable compass.

Approximate Estimates for the use of Architects, Engineers, Estate Agents, Contractors, &c. By LIEUT.-COL. T. E. COLEMAN. 5th edition. London: E. & F. W. Spon, Ltd. Price 10s. 6d. net.

This work is somewhat too "scrappy" in character to be of the value it otherwise might be. Many of the items might be eliminated without loss. It is useless to give prices for hypothetical items with no basis to work upon where the maximum and minimum prices vary as much as some hundreds per cent. It is of really very little use to give prices for either buildings or individual items unless some definite particulars of their character are also given.

A most useful addition to the work is the portion referring to the increases in cost contained in pages xx to lx, which shows very great care and a large amount of research, and appears to be quite consistent.

The author boldly announces that he has made no attempt to revise the prices of 1914, relying upon the conversion tables mentioned in foregoing pages to bring them up to date.

THE BUILDING TRADE.

HOW THE GOVERNMENT GRANT MAY BE OBTAINED.

Many people are vaguely aware that an Act has recently been passed which provides a grant, under certain conditions, to those building houses of a certain size. They lack, however, any exact information, and the dread of a protracted correspondence with a Government department deters them from an effort to obtain more definite information, and thus, perchance, a twofold opportunity is lost—an opportunity to erect a house for oneself at a reduced outlay, and an opportunity to embark on building as a speculation with a reduced capital expenditure. It must be remembered that every house that is built is tending to ease the national shortage. For those who may require more precise information the following remarks may be of use.

Before detailing the procedure to be adopted it is advisable to consider the kind of house which is eligible for the grant, and at the outset it is important to note that in order to obtain the full amount the building must be completed within twelve months from the passing of the Housing (Additional Powers) Act, 1919—that is, by December 23, 1920. The grant is not forfeited in respect of a house that is not completed by that date, for there is a sliding scale, extending until the termination of the sixteenth month—that is, until April 23, 1921—which permits of a proportionately reduced grant until that day.

The amount of grant payable for different sized houses is as follows:—

In respect of houses containing living-room, parlour and three or four bedrooms, and comprising not less than 920 ft. super. of floor area, £160.

In respect of houses containing living-room, and three bedrooms, and comprising not less than 780 ft. super. of floor area, £140.

In respect of houses containing living-room and two bedrooms, and comprising not less than 700 ft. super. of floor area, £130.

No grant will be made in respect of any house with more than four bedrooms, or which has a floor area in excess of 1,400 ft. super. The floor areas are to be measured by adding together the combined areas of both stories measured within the external walls of the house. A cellar will not be taken into account. Flatted cottages of not more than two stories may, subject to the express sanction of the Minister of Health, be permitted to rank for a grant in areas where there is a demand for such accommodation, and each flat that complies with the above conditions as to area and accommodation will be treated as one house.

The next consideration is the planning of the houses, and in this connection, from the point of view of the speculator, the density is an important item. In agricultural districts the number of houses to the acre should not exceed eight, in other districts the standard should be twelve, but on partially developed land, and within the discretion of the local authority, a larger number, not exceeding 20, may be permitted. The rooms should have a minimum height of 8 ft., and this figure shall apply to not less than two-thirds of the area in the case of a room partly in the roof. Where there is a sufficient water supply, a w.c. and bath must be provided; where there is no drainage there must be an e.c. Common drainage for not more than 14 houses on one common drain is permissible at the discretion of the local authority.

With regard to methods of construction, the Ministry of Health has published a brief specification which it is not possible to quote in full, but the important point for the prospective builder to note is that the provisions in this specification take precedence over any existing by-laws. The specification applies only to brick and stone structures, but grants are payable in respect of houses built in accordance with any special form of construction which has received the approval of the Ministry of Health; there are at present some 80 such forms available.

For the purposes of administrating the Housing, Town Planning, etc., Act, 1919, which was passed earlier in the year, England and Wales were divided into eleven regions each in charge of a commissioner, through whom all matters dealing with the provision of working-class houses by the local authorities passed; it was, therefore, sometimes presumed that the Regional Commissioner would be the person to whom application should be made under the Additional Powers Act. This is not so. The matter is one which concerns the person or body of persons desiring to build and the local authority, and it is, therefore, to the local authority in whose area it is desired to build that application must be made, and only in the event of a subsequent dispute will the matter be referred to the Housing Commissioner.

The application is accompanied by the submission of plans in the form required by the by-laws (if any) in force, with regard to new streets and buildings, but in every case the following drawings and documents must be submitted:—

(1).—A block plan in duplicate to the scale of 1/500, showing the lay-out, roads and sewers.

(2).—Complete plans and section in duplicate of the proposed house or houses to a scale of not less than eight feet to one inch.

(3).—Where the houses are to be built of brick or stone, an undertaking in writing that the standard of construction will be in accordance with the Ministry's specification referred to above, or equivalent thereto

(4).—Where some other form of construction approved by the Ministry of Health is proposed, a description of the method, and an undertaking that the form of construction will be carried out strictly in the manner approved by the Ministry.

As soon as the local authority receives these plans and undertakings it must cause them to be examined with all possible speed—for it must be remembered that delay may cause the applicant to forfeit, if not all, at least part of his grant—and if they are in order it must issue a certificate (Certificate A), returning at the same time one set of the plans marked with a form of approval. The applicant is then in a position to begin building.

When the house or houses are completed, a further application must be made for another certificate (Certificate B), which the local authority should issue after first satisfying itself that the work had been properly carried out in a workmanlike manner.

So soon as the applicant has received both the certificates (Certificates A and B), he should forward them both—after first filling up the back of Certificate B—to the Secretary, Ministry of Health, Whitehall, London, S.W.1. The Minister, when satisfied as to the correctness of the application, will pay the amount due, viz., the amount entered on Certificate A. In cases where any dispute arises in the granting of either certificate, or in cases where the applicant considers himself unfairly treated, the question shall be referred to the Housing Commissioner of the region in which it is proposed to erect the houses. Finally, it should be noted that no certificate will be issued in respect of a house which was begun before the passing of the Act, that is, before December 23, 1919. In the Administrative County of London application must be made to the District Surveyor of the district in which it be proposed to build.

Such, then, are the chief regulations to be observed, and the procedure to be adopted in order to obtain a grant from the Government which may enable many, for whom it might otherwise be impossible, to build themselves a home, or to continue developing land which for more than five years, has been neglected.

ACCELERATING HOUSING.

At a conference of representatives of the building trade unions, held at Westminster last week, Dr. Addison, Minister of Health, said that by the end of March tenders for 100,000 houses would be approved, and that by the end of June the figure would have risen to 200,000. In order to complete that number by next spring 48,600 bricklayers would be needed, but at present there were only 50,993 bricklayers all told, and a fortnight previously there was a shortage of 3,356 on the 13,205 houses then being built. Negotiations with the trade unions had been going on since June last, but as he had received no adequate proposals he put before the conference five definite proposals of his own. These were:—

(1) In no circumstances, in connection with any dispute arising, should there be a stoppage of house building.

(2) There should be every week a statement of labour shortages, and the unions should supply the want.

(3) A scheme for the augmentation of labour, whereby ex-service men who are able and willing can be trained and employed.

(4) Piece-work should be generally adopted, subject to safeguards against cutting rates and unemployment.

(5) He would undertake to supply a form of contract, with prices of materials, labour, overhead charges, &c. They would have an agreed scheme for checking the costs on the understanding that whatever speeding up was possible should be done. The houses should be built as rapidly and as well as possible, and any saving in respect of cost should be divided into three equal parts and paid one-third to the local authorities, one-third to the management, and one-third to the workers.

The conference received favourably the idea that a committee should be appointed to consider the suggestions and work out a practical scheme. Dr. Addison promised to put the scheme in writing before the Building Trades' Federation.

BUILDING TRADE WAGES IN LONDON.

In order that there may be no misconception with regard to the rates of wages payable from April 1, until the Tuesday following, to all branches of the building trades in the London area, including painters, Mr. W. J. Rudderham, Secretary, London Master Builders' and Allied Industries' Association; Mr. A. Davidson, Secretary, London Association of Master Decorators; and Mr. J. Murrey, Secretary, National Federation of Building Trade Operatives (London District Council), ask us to state that the Working Rule Agreements must be adhered to, and overtime rates therein provided only apply; no special rate being in operation for any particular branch of the trade.

Protection for Business Premises.

In the House of Commons last week, Dr. Addison (Ministry of Health) said that the question of protecting the occupiers of business premises as well as dwelling houses was being considered by the Committee then sitting, and he could not make any statement on the matter in anticipation of its report. He was giving the most careful consideration to the case of small shop-keepers, who were finding themselves in a very difficult position owing to the sale of their premises over their heads."

NOTES FROM THE FOREIGN PRESS.

SLIDING FORMS FOR CONCRETE CONSTRUCTION.

This article describes a method of employing movable shuttering in the construction of reinforced concrete buildings, and its application to a central grain elevator for the Pennsylvania Railroad near Baltimore, Md. The apparatus comprises not only the forms proper, but the apparatus necessary to lift them. The forms are usually of wood, with inner and outer sections held apart to the thickness of the walls by yokes; these yokes are supported and lifed by means of jacks, which in turn derive their support from vertical rods or pipes embodied in the concrete. The object is to produce a monolithic structure, and this obviously requires continuous placing of concrete twenty-four hours daily. It is essential that the forms should be moved upward at a steady and uniform rate, so that the concrete may not adhere to them. The forms are made up of an upper and lower wale consisting of 2-in. planks with broken butt joints. A common type of jack consists of a hollow screw fitted at its top with a turning head, and at its bottom with a device for gripping a vertical jack rod embedded in the concrete. The jack rod passes up through the centre of the jack, which in turn passes through the threaded head-piece of the yoke. By rotating the turning head with a bar the yoke is caused to move up, taking the forms with it. All the jacks must be rotated through the same angle at once. There is little difficulty in leaving suitable openings for windows and arranging for cross walls.—(*Engineering World.*)

ELECTROLYSIS IN CONCRETE.

This article is written by Mr. E. B. Rosa, Chief Physicist of the Bureau of Standards, and two of his assistants, who state that during the past few years attention has been called to the possibility of damage to reinforced concrete structures by stray currents from electric railways and other power sources. Laboratory experiments have shown that the passage of electric current from the reinforcing material into the concrete gave rise not only to serious corrosion of the reinforcing material, but also to cracking and splitting of the surrounding concrete. It had been found by earlier investigators that where current passed from the metal to the concrete, the damage was rapidly caused, but where the flow was in the opposite direction no damage need be expected. Five theories to account for the damage are described and criticised. The investigations made by the Bureau come under three headings:—(1) Laboratory experiments; (2) investigations of damage in actual construction; (3) a study of the various possible means of mitigating trouble. The conclusions reached by the investigators are then set out at considerable length in thirty-two numbered paragraphs. Summarising the conclusions, it may be said that damage occurred in a short time where the potential gradient exceeded 60 volts per foot. Damage caused by oxidation of the iron following electrolytic corrosion has been fully established, as the oxides occupy 2.2 times the space occupied by the original iron. Copper and aluminium coating of the iron is useless; the addition of even a fraction of 1 per cent. of salt to the concrete has a very prejudicial effect. If reinforced concrete could be waterproofed it would diminish the danger of damage through electrolysis. Painting the ironwork is not recommended, as it diminishes the adhesion of the concrete to the iron. Precautions must be taken to prevent the earthing of current-carrying cables, so as to reduce the possible dangers.—(*Engineering World.*)—*The Technical Review.*

We are asked by Messrs. Price, of Battersea, to state that our reference to "Bengee" turpentine has brought so many inquiries and orders that a slight delay is unavoidable for a week or so, but all inquiries and orders are being attended to in strict rotation.

RATES OF WAGES IN THE BUILDING TRADE.

The following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters	Masons' Labourers.	Bricklayers' Labourers	Plasterers' Labourers.
Aberdare	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Accrington	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Altrincham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Ashton-under-Lyne	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Barnsley	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Barrow-in-Furness	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Barry	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Bath	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/4½	1/4½	1/4½
Bedford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½	1/3½	1/3½
Birkenhead	2/–	2/–	2/–	2/–	2/–	2/–	2/–	1/4½	1/4½	1/4½
Birmingham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8½	1/8½
Bishop Auckland	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Blackburn	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Blackpool	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Bolton	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Bournemouth	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2½	1/2½	1/2½
Bradford	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Bridgwater	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/2½	1/2½	1/2½
Brighton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½	1/3½	1/3½
Bristol	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/7½	1/7½	1/7½
Burnley	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Burton-on-Trent	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Bury	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Cambridge	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½
Cardiff	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Chatham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½	1/3½	1/3½
Chelmsford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/1½	1/1½	1/1½
Cheltenham	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Chester	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Chesterfield	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/4½	1/4½	1/4½
Colchester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½	1/3½	1/3½
Coventry	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Crewe	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/5½–1/5½	
Darlington	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Derby	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Doncaster	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Dudley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Durham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
East Glam. and Mon. Valleys	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Exeter	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/3½	1/3½
Folkestone	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½
Gloucester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½
Grantham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Grays	1/11½	1/11½	1/11½	1/11½	1/11½	2/–½	1/10½	1/8½	1/8½	1/8½
Grimsby	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Great Yarmouth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Guildford	1/6½	1/6½	1/6½	1/6½	1/6½	1/7½	1/5½	1/3½	1/3½	1/3½
Halifax	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Harrogate	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Hartlepools	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Hastings	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Hereford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Huddersfield	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Hull	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Ipswich	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Lancaster	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Leamington Spa	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Leeds	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Leicester	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8½	1/8½	1/8½
Lincoln	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8½	1/8½	1/8½
Liverpool	2/–½	2/–½	2/–½	2/–½	2/–½	2/–½	2/–½	1/8½	1/8½	1/8½
Llanelly	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
London	1/11½	1/11½	1/11½	1/11½	—	2/0½	1/10½	1/8½	1/8½	1/8½
Loughborough	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Luton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/5½	1/5½	1/5½
Maidstone	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Manchester	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Mansfield	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Merthyr Tydfil	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Middlesbrough	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Newcastle-on-Tyne	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Newport, Mon.	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Northampton	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Norwich	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Nottingham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8½	1/8½	1/8½
Oldham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Oxford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/2½	1/2½	1/2½
Plymouth	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/5½	1/5½	1/5½
Pontypridd	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Portsmouth	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/2½	1/2½	1/2½
Preston	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Reading	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Rochdale	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Rochester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Rugby	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/7½
St. Albans	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/3½	1/3½	1/3½
St. Helen's	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Scarborough	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Sheffield	1/11½	1/11½	1/11½	1/11½	1/9½	2/–½	1/8½	1/8½	1/8½	1/8½
Shrewsbury	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Southampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/2½	1/2½	1/2½
Southend-on-Sea	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/5½	1/5½	1/5½
Southport	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
South Shields	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Stockport	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Stockton-on-Tees	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Stoke-on-Trent	1/8½	1/8½	1/8½	1/8½	1/8½	1/9½	1/8½	1/5½	1/5½	1/5½
Stroud	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Sunderland	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Swansea	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Taunton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½	1/3½	1/3½
Torquay	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½	1/3½	1/3½
Wakefield	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Walsall	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Warrington	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
West Bromwich	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8½	1/8½	1/8½
Wigan	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Windsor	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Wolverhampton	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Worcester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
York	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½

The Masons' rate given is for bankers: fixers usually ½d. per hour extra. * War bonus of 2s. per week granted † War bonus of 3s. per week granted. ‡ War bonus of 5s. 6d. per week granted. ‡‡ War bonus of 5s. per week granted. ¶ War bonus of 7s. 6d. per week granted. § These rates include the 12½ per cent. bonus. [The above rates, unless otherwise shown, are exclusive of 12½ per cent. bonus.—ED.]

COMPETITIONS, CONTRACTS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number. Contracts iv; Competitions iv; Public Appointments liv; Sales by Auction lvii. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where, quantities, forms of tender, etc., may be obtained.

BUILDING AND PAINTING.

APRIL 2.—**Uxbridge.**—HOUSES.—Erection of 10 houses at Northolt, 18 at Ickenham, and 32 at Harefield Park, and 68 at Harefield Common, together with road work for the R.D.C. Mr. R. S. Bowers, architect, 27A, Bush-lane, Cannon-street, E.C. Deposit, £2 2s.

APRIL 2.—**Chilham.**—FARM BUILDINGS, &c.—Two cottages and set of farm buildings at Stone Stile Farm, Chilham, for the Kent C.C. Mr. A. Barker, County Land Agent, 27, High-street, Maidstone.

APRIL 3.—**Cobham.**—BUILDINGS.—Erection of nine cottages, set of farm buildings, and adaptions to cottages at Dabbs Place, Cobham, for the Kent C.C. Mr. A. Barker, County Land Agent, 27, High-street, Maidstone.

APRIL 3.—**Gorran.**—RESIDENCE.—Erection of villa residence at Gorran Haven. Mr. F. C. Jury, Architect, Tregarthan, Poltan, St. Austell.

APRIL 3.—**Helensburgh.**—HOUSES.—Erection of 60 houses for the T.C. Mr. J. N. Stirling, Burgh Surveyor, Helensburgh.

APRIL 3.—**Inverleithen.**—HOUSES, &c.—Erection of 24 houses, roads, &c., for the T.C. Mr. D. Nicholson, Town Clerk, Inverleithen.

APRIL 3.—**Richmond (Yorkshire).**—EXTENSIONS.—Extensions at St. Nicholas. Mr. J. Jackson, Architect, Markse-by-the-Sea.

APRIL 5.—**Beverley.**—PAINTING.—For painting at Asylum, for the East Riding Visiting Committee. Mr. C. W. Hobson, clerk, 26, Langate, Beverley.

APRIL 5.—**Edinburgh.**—RECONSTRUCTION.—For reconstruction of tenements in Dumbiedykes-road, West Port and Cowgate. Director of Housing, 1, Parliament-street, Edinburgh.

APRIL 5.—**Edinburgh.**—HOUSES.—Erection of 196 houses at Willowbrae-road, for the T.C. Mr. J. D. Gibson, quantity surveyor, 60, Frederick-street, Edinburgh.

APRIL 5.—**Gartcosh and Glenboig.**—STATION RECONSTRUCTION.—Reconstruction of Station buildings at Gartcosh and Glenboig for the Caledonian Railway Co. Engineer, Offices, Buchanan-street, Glasgow. Deposit, £2 2s

APRIL 5.—**South Stoneham.**—HOUSES.—Erection of 32 houses at Hampton Park, Southampton, for the R.D.C.; also drainage and fencing. Housing Surveyor, Workhouse, West End, Hants. Deposit, £1 1s.

APRIL 6.—**Aldershot.**—HOUSES.—Erection of 100 houses, for the U.D.C. Mr. B. L. Griffiths, clerk, Municipal Buildings, Aldershot. Deposit, £5.

APRIL 6.—**Basford.**—PAINTING.—Painting at waterworks pumping station, &c., for the R.D.C. Mr. S. Maylan, engineer, Public Offices, Basford.

APRIL 6.—**Chingford.**—HOUSES.—Erection of a number of small houses for the U.D.C. Clerk to the Council, Council Offices, Chingford, E.4.

APRIL 6.—**Glamorganshire.**—SCHOOLS.—(1) New boys' and girls' school at Caerphilly (Twyn), (2) new mixed and infants' school at Pontyclun (Llantrisant), (3) new boys' school at South Bargoed, (4) new boys' school at Beddau (Llantrisant), (5) new boys' school at Clydach-on-Tawe, (6) new infants' school at Kingsbridge, (7) new infants' school at Duffryn Rhondda (Cymmer, Port Talbot), for the County Council. Mr. H. D. Rowland, Assistant Secretary, Glamorgan County Hall, Cardiff.

APRIL 6.—**Glasgow.**—SUB-STATION.—For various trades connected with erection of sub-station at Partick, for the T.C. Electrical Engineer, 75, Waterloo-street, Glasgow.

APRIL 6.—**Glasgow.**—EXTENSION.—Extension of Cathedral-street sub-station, for the Corporation. Electrical Engineer, 75, Waterloo-street, Glasgow.

APRIL 6.—**Gomersal.**—COTTAGES, &c.—Erection of homestead and two pairs of cottages for the West Riding Small Holdings Committee.—Architect, Small Holdings Committee, County Hall, Wakefield. Deposit £1.

APRIL 6.—**Hornsea.**—COTTAGES.—Erection of two semi-detached cottages, for the U.D.C. Mr. W. E. Warburton, architect, Public Rooms, Hornsea. Deposit, £1 1s.

APRIL 6.—**Kingsnorth.**—HOUSES.—Four houses at Kent Industrial School, Kingsnorth, near Ashford, for the Kent C.C. Mr. F. W. Ruck, County Architect, 86, Week-street, Maidstone.

APRIL 6.—**Ledbury.**—HOUSES.—Erection of two blocks of four houses each, for the U.D.C. Mr. R. G. Gurney, surveyor, Ledbury. Deposit, £2 2s.

APRIL 6.—**Prudhoe.**—CONVERSION.—Conversion of 28 sectional huts into dwellings, for the U.D.C. Mr. J. A. Baty, clerk, Lloyd's Bank-chambers, Hexham.

APRIL 6.—**Wallington.**—VARIOUS.—(1) Erection of public sanitary convenience; and (2) painting Council offices. Mr. S. F. R. Carter, surveyor, Council offices, Wallington.

APRIL 7.—**Barnet.**—REPAIRS.—Painting and general repairs to New Infirmary, Wellhouses-lane, Barnet, for the Union. Messrs. Williams & Cox, architects, 34, Henritta-street, Covent Garden, W.C. 2.

APRIL 7.—**Braintree.**—COTTAGES.—Erection of 14 cottages at Gt. Coggeshall, 12 at Little Coggeshall, and 20 at Hatfield Peverel, for the R.D.C. Mr. A. R. Dannett, architect, Great-square, Braintree. Deposit, £1 1s.

APRIL 7.—**Brotton.**—HOUSES.—Erection of 38 houses, for the U.D.C. Messrs. R. Lofthouse & Sons, architects, 129, Albert-road, Middlesborough. Deposit, £1 1s.

APRIL 7.—**Hemsworth.**—PAINTING.—For outside painting at Poor-Law Institution, for the B.G. Mr. W. T. Lynam, surveyor, District Council Offices, Hemsworth.

APRIL 7.—**Llandaff.**—HOUSES.—Erection of 15 houses, in Ely, near Cardiff, for the Llandaff and Dinas Powis R.D.C. Mr. J. Holden, engineer, 28, Parkplace, Cardiff. Deposit, £3 3s.

APRIL 7.—**Nottingham.**—HOUSES.—Erection of 282 houses in eight contracts for the T.C. Mr. W. A. Kneller, 12, Victoria-street, Nottingham. Deposit, £2 2s.

APRIL 7.—**Sefton.**—HOUSES.—Erection of 36 houses in various townships for the R.D.C. Mr. E. B. Bailey, architect, 37, Moorfields, Liverpool. Deposit, £1 1s.

APRIL 7.—**Sherbourne.**—HOUSES.—Erection of Council Offices, Sherbourne, Dorset.

APRIL 7.—**Sunninghill.**—TELEPHONE EXCHANGE.—Erection of telephone exchange, for H.M. Office of Works. Director of Contracts, H.M. Office of Works, Storey's-gate, Westminster. Deposit, £1 1s.

APRIL 7.—**Wallasey.**—HOUSES.—Erection of 47 houses (nine blocks of four each, one block of three, and four pairs). Mr. W. H. Travers, borough engineer and surveyor, 18, Falkland-road, Wallasey.

APRIL 8.—**Carlisle.**—PAINTING.—Painting work at Carlisle, Upperby and Stanwix Cemeteries, for the T.C. Mr. H. C. Marks, city engineer, Carlisle. Deposit, 10s.

APRIL 8.—**Cheltenham.**—REPAIRS.—Painting and repairs at Delancey Hospital, for the trustees. Messrs. Heeling & Overbury, architects, Lloyd's Bank-chambers, Cheltenham.

*APRIL 8.—**Colwyn Bay and Colwyn.**—WORKMEN'S DWELLINGS.—Erection of 22 for the U.D.C. Mr. Wm. Jones, engineer and surveyor, Council Offices, Colwyn Bay.

APRIL 8.—**Cornwall.**—POST OFFICE.—The Commissioners of H.M. Works, etc., invite tenders for the erection of a new Post Office, at St. Austell, Cornwall. Postmaster, at Austell.

APRIL 8.—**Dewsbury.**—PAINTING.—Painting buildings on West End and Calder Bank Mills Estates, for Messrs. G. Fox & Sons. Messrs. J. Frith & Son, architects, 22, Wellington-road, Dewsbury.

APRIL 8.—**Essex.**—(*a*) Erection of four cottages near Cox's Farm, Mayland's Green, Romford; (*b*) alterations and additions, converting farm buildings into four cottages, Mayland's Green Farm, Romford; (*c*) erection of two cottages near Marshy Farm, Yeldham, for the Essex C.C. Mr. J. Stuart, County Architect, Chelmsford. Deposit £1 1s.

APRIL 8.—**Swansea.**—ALTERATIONS.—Alterations to Post Office, for H.M. Office of Works. Director of Contracts, H.M. Office of Works, Storey's-gate, Westminster, S.W. Deposit, £1 1s.

APRIL 9.—**Brighton.**—SHED.—Extension of the Lewes-road car shed for the C.B. Tramways Depot, Lewes-road, Brighton.

APRIL 9.—**Huddersfield.**—HOUSES.—Erection of 104 houses, for Karrier Motors, Ltd. Mr. E. F. Gilman, architect, Rockisfield Hostel, Lockwood, near Huddersfield.

APRIL 9.—**Lambeth.**—Conversion of separate premises at Nos. 33 and 34, Guildford-road, South Lambeth, into five self-contained flats, for the Metropolitan Borough. Town Clerk, Lambeth Town Hall, Brixton Hill, S.W. 2.

APRIL 9.—**Staines.**—HOUSES, ROADS, &c.—Erection of 82 houses, road-making, fencing, &c., on five sites for the R.D.C.. Mr. G. W. Manning, London-road, Ashford. Deposit, £3 3s.

APRIL 9.—**Woking.**—COTTAGES.—Erection of 50 pairs of cottages of four different types for the U.D.C. The Surveyor, Council Offices, Woking.

APRIL 10.—**Batley.**—HOUSING.—Erection of twenty houses for the T.C. Mr. H. L. Hall, borough engineer, Town Hall, Batley.

APRIL 10.—**Brentford.**—HOUSES.—Erection of 44 houses for the U.D.C. Mr. W. J. W. Westlake, Surveyor, Council Offices, Clifden House, Boston-road, Brentford. Deposit, £2 2s.

APRIL 10.—**Sheffield.**—EXTENSION.—Extension to sub-station, for the Electricity Dept. of the Corporation. Mr. S. E. Fedden, general manager, Commercial-street, Sheffield. Deposit, £1 1s.

APRIL 10.—**Sheffield.**—HOUSES.—Erection of pair of houses, for the B.G. Clerk of Works, Fir Vale House, Sheffield.

APRIL 10.—**Stretford.**—HOUSES.—Erection of 253 houses on the Moss-road site, for the U.D.C. Mr. E. Worrall, surveyor, Council Offices, Talbot-road, Old Trafford. Deposit, £1 1s.

APRIL 10.—**Towcester.**—HOUSES.—Erection of 48 for the R.D.C. Messrs. Jackson, Slopp, architects, Towcester.

APRIL 12.—**Biggleswade.**—HOUSES.—Erection of 40 houses for the U.D.C. Mr. Thos. Chokrill, Architect, Council Offices, Biggleswade.

APRIL 12.—**Darlington.**—WAGON WORKS.—Erection of wagon building works for the North Eastern Railway Co. Mr. A. Pollard, Company's Architect, at York.

APRIL 12.—**East Ashford.**—HOUSES.—Erection of 20 houses for the R.D.C. Clerk to the Council, 7, Bank-street, Ashford, Kent.

APRIL 12.—**Macclesfield.**—HOUSES.—24 houses on the Park House Estate. Mr. E. Hanson, Borough Surveyor, Town Hall, Macclesfield. Deposit £2.

APRIL 12.—**Romsey.**—HOUSES.—Erection of 29 houses, for the T.C. Mr. A. Haynes Johnson, architect, 95A, High-street, Winchester.

APRIL 12.—**Southend-on-Sea.**—HOUSES.—Erection of 15 for the Borough, on the Sutton-road site. Mr. Robert H. Dyer, Borough Engineer, Muncipal-buildings Southend-on-Sea.

APRIL 12.—**Wigan.**—HOUSES.—The time for tendering for erection of 135 houses, for the T.C., has been extended to the 12th. Mr. R. B. Donald, borough engineer, Wigan. Deposit, £2 2s.

APRIL 13.—**Burntisland.**—HOUSES.—Erection of 30 houses at Rossend site, for the T.C. Burgh surveyor, Burntisland. Deposit, £2 2s.

APRIL 13.—**Keadue.**—HOSPITAL.—For completion of Keadue Hospital, for the Cavan C.C. Mr. W. Finlay, Secretary, Court House, Cavan.

APRIL 13.—**Kingston-on-Thames.**—REPAIRS, &c.—For repairs and painting to the workhouse, Norbiton, or the Board of Guardians. Mr. W. H. Hope, Architect, Juppsland, Billinghurst. Deposit, £1.

APRIL 14.—**Epsom.**—COTTAGES.—Erection of 36 at Upper Mulgrave-road, Cheam, for the R.D.C. Mr. A. W. Tribe, architect, Denison House, Westminster.

APRIL 14.—**Manchester.**—SCHOOL.—Completion of the Orford-street Municipal School, Cheetham, Manchester, for the E.C. Education Offices, Deansgate, Manchester.

*APRIL 14.—**Margate & London, S.W.**—REPAIRS AND PAINTING.—(1) Cleaning, painting, and alterations to old building at Princess Mary's Hospital for Children, Cliftonville, Margate; (2) external and internal painting and repairs at the Fountain Temporary Mental Hospital, Tooting, S.W., for the Metropolitan Asylums Board.

APRIL 14.—**Newport (Salop).**—HOUSES.—Erection of 28 houses for the U.D.C. Mr. F. H. Shayler, Architect. 10, Gateway-chambers, Shrewsbury. Deposit, £1 1s.

APRIL 14.—**Teddington.**—HOUSES, &c.—Erection of 124 of various types and sewer construction and road-making, in connection therewith. Mr. G. H. Salmons, clerk to the council, Elmfield House, Teddington.

APRIL 14.—**Tipton.**—HOUSES.—Erection of 52 houses, for the U.D.C. Mr. J. P. Clerk, architect, Regent-chambers, Wednesbury. Deposit, £3 3s.

APRIL 15.—**Andover.**—HOUSES.—Erection of 33 houses, with drainage works, &c., for the T.C. Borough Surveyor, Town Hall, Andover. Deposit £1 1s.

APRIL 15.—**Bakewell.**—HOUSES.—Erection of 24 houses, for the R.D.C. Mr. C. Flint, architect, 5, The Quadrant, Buxton. Deposit, £1 1s.

APRIL 15.—**Chatteris.**—HOUSES.—Erection of 20, for the U.D.C. Mr. S. Hipwell, architect, surveyor's office, Chatteris.

APRIL 15.—**Shepton Mallet.**—COTTAGES.—Erection of 16 cottages at Evercreech and construction of road and sewers, for the R.D.C. Mr. A. J. Allen, architect, Council offices, Shepton Mallet Deposit, £2 2s.

APRIL 15.—**Winchester.**—ENGINEERS' HOUSE AND 12 COTTAGES.—Erection of, for the employees at Park Prewett Mental Hospital. Messrs. G. T. Hine & Pegg, architects, 35, Parliament-street, Westminster, S.W.1

APRIL 16.—**Barnham.**—COTTAGES.—Erection of 32 cottages on Barnham and Choller estates, for the West Sussex C.C. Mr. H. P. Roberts, county architect, Thurloe House, Worthing. Deposit, £1 1s.

APRIL 16.—**Burry Port.**—EXTENSION.—Extension of Burry Port Co-operative Society's central premises. Quantities at premises. Deposit, £1 1s.

APRIL 16.—**Cosford.**—HOUSES.—Erection of 42 houses in various parishes, for the R.D.C. Mr. L. Crowfoot, Long Melford, Sussex. Deposit, £2 2s.

APRIL 16.—**East Sussex.**—LAVATORIES.—New, and alteration to existing, at East Grinstead Public Elementary Council School. Mr. F. J. Wood, M.S.A., County Surveyor's Dept., County Hall, Lewes.

APRIL 16.—**Sibsey.**—COTTAGES.—Erection of pair of cottages at Frithville and pair at Sibsey, for the R.D.C. Mr. O. B. Giles, clerk, 28, Wide Bargate, Boston. Deposit, £2 2s.

APRIL 16.—**West Sussex.**—COTTAGES.—Erection of 32, for the C.C. Mr. Hayden P. Roberts, F.R.I.B.A., county architect, Thurloe House, Worthing.

APRIL 17.—**Maldon.**—HOUSES.—Erection of 16 houses, for the T.C. Mr. T. R. Swales, borough engineer, Maldon.

*APRIL 19.—**Newton Abbot.**—HOUSES (in pairs).—68 in all, in various parishes. Mr. Samuel Segar, Architect, 24, Union-street, Newton Abbot.

APRIL 19.—**West Riding of Yorkshire.**—COTTAGES, &c.—Erection of cottages and homesteads at Hawksworth, Pottleton, Rufforth and Bythen, for the West Riding Small Holdings Committee. Architect, Small Holdings Committee, County Hall, Wakefield.

APRIL 20.—**Leeds.**—HOUSES.—Erection of 24 houses on Wythen House Estate, for the Corporation. Mr. W. T. Lancashire, city engineer, Leeds. Deposit, £1 1s.

APRIL 21.—**Barnet.**—COTTAGES.—Erection of 24 cottages at Harris-lane, Shenley, for the R.D.C. Clerk, Council Offices, Boreham Wood.

APRIL 21.—**Fulham.**—Cleaning and painting various parts of the interior and exterior of the Central Library. Borough Surveyor, Town Hall, Fulham.

APRIL 23.—**Manchester.**—REPAIRS.—Repairs at Art Gallery, at Heaton Park, for the Corporation. City architect, Town Hall, Manchester. Deposit, £1 1s.

APRIL 22.—**Prestwich.**—HOUSES.—Erection of 141 houses, for the U.D.C. Mr. C. H. Morgan, engineer, Town Hall, Prestwich. Deposit, £2 2s.

★APRIL 22.—**Southwark.**—Painting, cleaning, &c., at the Southwark Union Infirmary, East Dulwich Grove, S.E. Mr. A. Saxon Snell, Architect, 9, Bentinck-Street, W.1.

APRIL 23.—**Hurlingham.**—STANDS.—Erection of temporary or permanent stands to accommodate 30,000 spectators, for the Committee. Lt.-Col. A. A. Duff, manager, Hurlingham Club, Fulham, S.W.

APRIL 23.—**London.**—ENGINE HOUSE, &c.—Erection of engine house, cottage, &c., at Shooters'-hill, for the Metropolitan Water Board. Chief Engineer's Dept., South-place, Finsbury-pavement, E.C. Deposit, £5.

APRIL 23.—**London, S.W.**—STANDS.—Erection of temporary or permanent stands to accommodate 30,000 spectators on the ground of the Hurlingham Club. Lt.-Col. A. A. Duff, manager, Hurlingham Club, Fulham, S.W. 6.

APRIL 24.—**Stafford.**—INSTITUTE.—Erection of a county mining institute, at Ford Green, Smallthorne, for the E.C. Director of Education, County Education Offices, Stafford.

APRIL 28.—**Newport Pagnell.**—HOUSES.—Erection of 10 for the R.D.C. Mr. W. B. Stonebridge, M.S.A, architect, 26, St. John's-street, Bedford.

MAY 10.—**Tilbury.**—HOUSES.—Erection of 1,520 houses, for the U.D.C. Mr. S. A. Hill-Willis, engineer, Council offices, 47, Dock-road, Tilbury. Deposit, £10 10s.

★NO DATE.—**Bedfordshire.**—WAR MEMORIAL.—Erection of War Memorial at Maulden, near Ampthill, Beds. Mr. H. Robinson, Hon. Secretary, Maulden, Ampthill, Beds.

NO DATE.—**Leeds.**—HOUSES.—Erection of three terrace houses at Chiltetown. Messrs. G. F. Bowman & Son, architects, 5, Greek-street Leeds.

★NO DATE.—**Merton and Morden.**—HOUSES.—Erection of 62 houses (the superstructure), on the Claremont Estate; and 138 houses on the Whatley Estate, No. 2 Section. Messrs. Brocklesby & Marchment, 267, Kingsland-road, Merton, S.W.

NO DATE.—**Pontardawe.**—OFFICES.—Extension to offices, for Messrs. W. Gilbertson & Co. Messrs. C. S. Thomas & Herbert Jones, Architects, Salisbury-Chambers, Wind-street, Swansea.

NO DATE.—**Pudsey.**—GARAGE.—Erection of garage, for the Pudsey Motor Transport Co. Mr. W. Shackleton, architect, Pudsey.

NO DATE.—**Stafford.**—HOUSES.—Fourteen houses in three different parishes, for the R.D.C. Mr. C. W. Miller, Architect, Prudential Chambers, Greengate, Stafford.

FURNITURE, MATERIALS, etc.

APRIL 3.—**Ramsey.**—ROAD MATERIALS.—Supply to the U.D.C. of road materials. Mr. R. F. Sergeant, Clerk, Ramsey, Hunts.

APRIL 7.—**London.**—DUSTBINS, &c.—Supply of dustbins, pails, &c., for H.M. Office of Works. Controller of Supplies, H.M. Office of Works, King Charles-street, S.W.

APRIL 7.—**London.**—TUBES, &c.—Supply of conduit tubes and fittings for H.M. Office of Works. Controller of Supplies, H.M. Office of Works, King Charles-street, S.W.

APRIL 8.—**Gosport.**—MATERIALS.—Supply of materials, for the U.D.C. Surveyor, Town Hall, Gosport.

APRIL 8.—**Horsham.**—ROAD MATERIALS.—Supply of road materials to the R.D.C. Mr. W. R. Guildford, surveyor, 42, Albion-terrace, Horsham.

APRIL 8.—**Maldon.**—ROAD MATERIAL.—Supply of granite and slag to the T.C. Mr. T. R. Swales, Borough Engineer, Municipal Offices, Maldon.

APRIL 9.—**St. Marylebone.**—PAVING BLOCKS.—Supply of 500,000 creosoted Swedish deal paving blocks, for the B.C. Mr. J. Paget Waddington, borough surveyor, Town Hall, Marylebone.

APRIL 13.—**Leith.**—MATERIALS.—For supply of materials to the T.C. Borough Surveyor Council Chambers, Leith.

APRIL 14.—**Milnrow.**—MATERIALS.—Supply of materials, for the U.D.C. Mr. R. R. Jones, surveyor, Council Offices, Milnrow.

APRIL 19.—**Tenterden.**—MATERIALS.—Supply of road materials to the T.C. Mr. W. L. C. Turner, Borough Surveyor, Town Hall, Tenterden.

ENGINEERING, IRON AND STEEL.

APRIL 7.—**Lochgelly.**—RAILWAY.—Construction of railway line to the housing site for the T.C. Mr. A. Lumsden, burgh surveyor, Lochgelly. Deposit £2 2s.

APRIL 8.—**Manchester.**—CONCRETE CAISSON.—Construction of reinforced concrete caisson at the oil dock, Stanlow, for the Manchester Ship Canal Co. Mr. H. A. Reed, Chief engineer, 41, Spring-gardens, Manchester. Deposit £2 2s.

APRIL 9.—**Aberdeen.**—GIRDERS, &c.—Supply of steel girders and flooring for the renewal of bridges, for the Great North of Scotland Railway Co. Mr. J. H. Parker, engineer, 80, Guild-street, Aberdeen. Deposit, £1 1s.

APRIL 9.—**Chelmsford.**—HEATING.—Heating and hot water supply to diphtheria block of Isolation Hospital, for the Joint Hospital Board. Messrs. Charles & W. H. Pertwee, architects, The Institute, Chelmsford.

APRIL 13.—**London.**—RAILWAY MATERIAL.—Supply of laminated bearing springs, for the South Indian Railway Co. Mr. R. White consulting engineer, 3, Victoria-street, S.W. Charge, 10s.

APRIL 14.—**Margate.**—ENGINEERING WORK.—, Installation of new steam boiler, ironing machine pipe work and engineering work at Princess Mary's Hospital, for the Metropolitan Asylums Board. Office of Board, Embankment, E.C. Deposit, £1.

APRIL 17.—**Banbridge.**—BRIDGE.—Reconstruction of steel bridge over River Bann at Banbridge, for the Great Northern (Ireland) Railway Co. Engineer, Belfast. Deposit, £2 2s.

APRIL 24.—**Guernsey.**—TOWER.—Erection of concrete tower on Roustel Rock, in Little Russel-passage, for St. Peter Port Harbour Committee. Mr. J. H. Duquemin, States engineer, Guernsey.

MAY 11.—**Liverpool.**—PUBLIC WASH-HOUSE.—Engineering work required in addition to public wash-house for the Corporation. Engineer, Baths Department, Municipal Buildings, Liverpool. Deposit, £1 1s.

NO DATE.—**Salford.**—SEWERAGE.—Construction of sewerage works at Weaste, for the T.C. Messrs. James Diggle & Son, civil engineers, Hand Mill-street, Heywood.

ROAD, SANITARY, AND WATER WORKS.

APRIL 5.—**Rhymney.**—ROAD.—Making approach road from Hill-street to Garden City. Mr. W. Lloyd Marks, Surveyor, Rhymney.

APRIL 6.—**Aberdeen.**—ROADS.—Repairs to roads in Deeside district, for the C.C. Mr. A. H. Clayton, road surveyor, Aboyne.

APRIL 6.—**Rochdale.**—ROADS.—Construction of roads and sewers on housing sites. Borough Surveyor, Town Hall, Rochdale.

APRIL 6.—**Stokesley.**—ROADS AND SEWERS.—Construction of roads and sewers on Great Ayton housing site, for the R.D.C. Mr. G. T. Wellburn, architect, 63, High-street, Redcar. Deposit, £1 1s.

APRIL 7.—**Greenock.**—WATER WORKS.—Construction of filtered water tank and filter-house, for the T.C. Water Engineer, Municipal Buildings Greenock.

APRIL 7.—**Kingsbury.**—ROADS.—Tar-painting roads, for the U.D.C. Surveyor, Council Offices, Kingsbury, N.W.

APRIL 7.—**Llandaff.**—SEWERS.—Construction of 330 lineal yards of 9 in. and 18 in. sewers, for the R.D.C. Mr. J. Holden, surveyor, 20, Park-place, Cardiff. Deposit, £1.

APRIL 8.—**Newport (Salop).**—ROADS AND SEWERS.—Construction of roads and sewers on Longford-road housing site for the U.D.C. Mr. F. H. Shaylor, Architect, Gateway-chambers, Shrewsbury. Deposit, £1 1s.

APRIL 9.—**Chorley.**—ROADS.—Construction of roads and sewers at Anderton, Coppull, Clayton, Eccleston and Buxton, for the R.D.C. Mr. J. B. Jolly, architect, 9, High-street, Chorley. Deposit, £1.

APRIL 9.—**Huddersfield.**—MAKING-UP.—Making-up site for houses at Lockswood, for the Karrier Motor, Ltd. Mr. E. F. Gilman, architect, Lockwood, Huddersfield. Deposit, £2 2s.

APRIL 9.—**Lochgelly.**—ROADS, &c.—Construction of streets, sewers, water and gas mains in connection with housing scheme of the T.C. Mr. A. Lumsden, borough surveyor, Lochgelly. Deposit £2 2s.

APRIL 9.—**Port Glasgow.**—FILTERS.—Construction of two additional filters, for the T.C. Messrs. Crouch and Hogg, engineers, 14, Blythswood-square, Glasgow. Deposit £2 2s.

APRIL 9.—**Tividale.**—SEWERAGE WORKS.—Construction of settling tank, filter bed, &c., at Tividale, near Dudley, for the Upper Stour Valley Main Sewerage Board. Mr. W. Fiddian, engineer, 7, Church-street, Stourbridge. Deposit, £3 3s.

APRIL 9.—**Turdale.**—SEWERS.—Reconstruction of sewers in Cradley for the Upper Stour Valley Main Sewerage. Mr. W. Fiddian, engineer, 7, Church-street, Stourbridge. Deposit, £3 3s.

APRIL 10.—**Leeds.**—ROADS.—For making up Thomas, street, for the U.D.C. Mr. J. W. Liversege, surveyor, Council offices, Leeds.

APRIL 10.—**Loughborough.**—SEWER.—257 lineal yards of 12 in. and 180 yards of 9 in. sewer. Mr. A. H. Walker, Borough Engineer, Loughborough. Deposit £2 2s.

APRIL 10.—**Portslade.**—SEWER.—Construction of 160 yd. of 18 in. sewer, &c., for the Portslade and Southwick Outfall Sewerage Board. Mr. J. S. Alford, engineer, 11, Victoria-street, Westminster, S.W. Deposit, £1.

APRIL 10.—**Spanborough.**—ROAD.—Construction of road in connection with sewerage scheme for the U.D.C. Mr. A. Rothers, surveyor, Town Hall, Cleckheaton. Deposit £2.

★APRIL 12.—**Camberwell.**—Providing and laying of compressed Asphalte in various roads for the Borough. Mr. Frederick S. Slater, Borough Engineer, Town Hall, Camberwell, S.E.5.

APRIL 12.—**Islington.**—CULVERT.—Construction of reinforced concrete culvert at the Cemetery, East Finchley, for the B.C. Superintendent of the Cemetery, East Finchley.

APRIL 12.—**Swansea.**—ROADS AND SEWERS.—Road making, &c., at Pontardulais and Gowerton, for the R.D.C. Mr. J. T. J. Williams, architect, 3, Temple Buildings, Goat-square, Swansea. Deposit, £2 2s.

APRIL 12.—**Wallsend.**—SANITARY.—Erection of four water closets at Wellington Quay, for the T.C. Town Hall, Wallsend.

APRIL 13.—**Deptford.**—WOOD PAVING.—Wood paving carriageways on side of tramway tracks (ave. 31,100 yds.), for the B.C. Mr. H. M. Lawson, borough surveyor, Town Hall, Deptford, S.E.

APRIL 13.—**Romford.**—STREET WORKS.—(*a*) Wood paving in High-street, &c.; (*b*) tarred slag macadam roading in London-road, for the U.D.C. Mr. F. G. Beaumont, surveyor, Council Offices, Romford. Deposit £2 2s.

APRIL 14.—**Beddington and Wallington.**—ROADS AND SEWERS.—Construction of roads (preliminary works) and sewers for the U.D.C. Mr. S. F. R. Carter, Council Offices, Wallington.

APRIL 14.—**Llantrisant.**—ROAD.—Completion of certain roads for the R.D.C. Mr. T. Saunders, Surveyor, School-street, Pontyclun. Deposit, £5.

APRIL 15.—**Sutherland.**—ROADS.—For reconstructing roads, for the C.C. Mr. R. Grant, County-road, surveyor, Golspie.

APRIL 16.—**East Grinstead.**—SANITARY WORK.—Erection of new and alterations to existing lavatories at Council Schools, for the East Sussex E.C. Mr. F. J. Wood, County surveyor, County Hall, Lewes.

APRIL 21.—**Nelson.**—WATERWORKS.—(1) Supply of 880 tons of cast-iron pipes; (2) constructing road and laying pipes, for the T.C. Mr. C. E. Newton, engineer, 19, Cooper-street, Manchester.

APRIL 22.—**Beaconsfield.**—ROADS AND SEWERS.—Construction of roads and sewers for the U.D.C. Clerk to the Council, Council Chambers, Beaconsfield.

APRIL 23.—**Chertsey.**—SEWERAGE WORKS.—For sewerage works, for the U.D.C. Mr. G. Midgley Taylor, 36, Victoria-street, Westminster, S.W. Deposit, £5.

NO DATE.—**London.**—SEWERS AND ROADS.—Construction of sewers and the preliminary formation of roads, for the L.C.C. Architect to the Council, New County Hall, Westminster Bridge-road, S.E.1.

Auction Sales, Tenders, &c.

★APRIL 9.—**Bartley.**—Messrs. Richard Austin & Wyatt will sell at the "Station Hotel," Totton, standing timber. Mr. J. H. Sampson,, J.P., the Estate Office, Minstead, Lyndhurst.

APRIL 12.—**Tring, Herts.**—Messrs. W. Brown & Co., will sell at the Rose and Crown Hotel, Tring, 10 freehold building sites. W. Brown & Co., auctioneers, Tring.

APRIL 12 AND 13.—**Beverley Brook.**—Messrs. Allsop & Co. will sell by direction of the Disposal Board, at No. 2 Balloon Training Depot, Beverley Brook, huts, building and builder's plant. Catalogues, 141, Park-road, Regent's Park, N.W. 8.

APRIL 13.—**Arsenal, Woolwich.**—Messrs. J. T. Skelding & Co., will sell by direction of the Disposal Board, Temporary Hospital and Equipment at the Royal Arsenal. Auctioneers: J. T. Skelding & Co., 48, Gresham-street, Guildhall, E.C.2.

APRIL 13.—**Exeter.**—Messrs. Joseph Hibbard & Sons, will sell by order of the Disposal Board, at the Quicke Estate, near Newton St. Cyres Station, L. & S.W. Rly., four miles from Exeter, stock of well-cut English timber. Auctioneers, Newington Green, Islington, N.

APRIL 13.—**Studley.**—Messrs. J. Hibbard & Sons will sell, on the premises of Messrs. Beint & Sons' Mill, Studley, well cut stock of prime ash, 60,000 cube ft., cut into planks of all thicknesses. Catalogues, Auctioneer, Newington Green, N.

APRIL 14.—**Cleeve (Somerset).**—Messrs. Joseph Hibbard will sell, by order of the Board of Trade, on the Mill site, Cleeve, Somerset, well cut stock of English timber. Auctioneers, Newington Green, Islington, N.1.

APRIL 14.—**Epsom.**—Messrs. Fuller, Moon & Fuller will sell, by direction of the Disposal Board, at R.E. stores, Woodcote Park, huts, building materials and stores. Auctioneers, 83, High-street, Croydon, and High-street, Epsom.

★APRIL 14.—**Hatfield.**—Messrs. Hubert & Flint will sell, with possession, at Winchester House, E.C., the important freehold manufacturing premises, known as the Hatfield Brewery. Auctioneers: 11, Searle-street, Lincoln's-inn, W.C. 2.

★APRIL 14.—**Quedgeley.**—Messrs. Bruton Knowles & Co. will sell by direction of the disposal board at H.M. No. 5 National Filling Factory, Quedgeley (near Gloucester), paint, &c., about 15 tons. Auctioneers, Albion Chambers, Gloucester.

APRIL 14 AND 15.—**Feltham, Middlesex.**—Messrs. E. & S. Smith will sell, by order of the Disposal Board, at the Aircraft Acceptance Park (Q Stores Dept., R.A.F.), Feltham, valuable constructional ironwork, ironmongery, timber, building materials and plant. Auctioneers, Carlton House, 68, Great Queen-street, Kingsway, W.C. 2.

★APRIL 15.—**Vauxhall, S.E.**—Messrs. Joseph Hibbard & Sons will sell by order of the Mortimer Saw Mills, surplus plant (saw mill plant). Catalogues of Auctioneer, Newington-green, Islington, N.

APRIL 20.—**Bristol.**—Messrs. Fuller, Horsey & Co. will sell, at the Grand Hotel, contractors' plant from the National Shipbuilding Yard, Beachley. Catalogues from the Auctioneers' Offices, 11, Billiter square, E.C. 3.

APRIL 20.—**Kensington.**—Messrs. Daniel Watney & Sons will sell at Winchester House, Old Broad-street, important freehold estate situate close to Gloucester-road Station, Kensington.

APRIL 20.—**Near Eltham, Kent.**—Messrs. Daniel Watney & Sons will sell about 64 acres of freehold building land. Particulars, 4A, Frederick-place, Old Jewry, London, E.C. 2.

Competitions.

(*See Competition News, page* 398.)

Public Appointments.

APRIL 2.—**Southampton.**—SURVEYOR AND ACCOUNTANT.—Quantity Surveyor and Accountant for the county. Salary, including war bonus, at the rate of £350 per annum. Mr. W. J. Taylor, county surveyor, "The Castle," Winchester.

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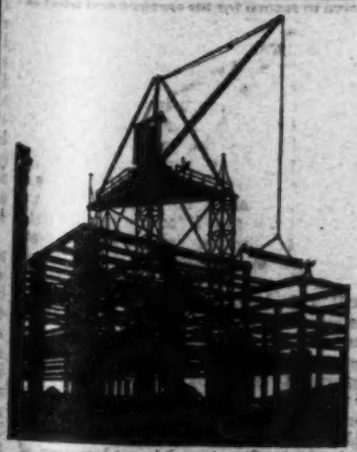

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April 2.—Gravesend.—Draughtsman for the borough. Salary £200 per annum. Borough Surveyor Municipal Offices, Gravesend.

April 3.—Hove.—Temporary Architectural Assistant. Salary £300 per annum, also a temporary General Assistant. Salary £160 per annum, for the Borough. Borough Surveyor, Town Hall, Hove.

April 3.—Willenhall.—Clerk of Works for the U.D.C. Salary £300 per annum. Engineer and Surveyor, Town Hall, Willenhall.

*April 6.—London.—Instructors Carpentry and Joinery, General Guilding, Plumbing, persons desiring their names placed on the panel to apply to the Education Officer (T.6), Education Offices, Victoria Embankment, W.C. 2.

April 6.—Newport Pagnall.—Clerk of Works.—Services of a Clerk of Works for the R.D.C.

April 7.—Essex.—Architectural Assistant for the C.C., County Architect, 79, Duke-street, Chelmsford.

April 8.—Bootle.—Assistant.—Position of temporary Architectural Assistant, for the county borough. Salary, £300 per annum. Mr. J. Spencer Tumilty, town clerk, Town Hall, Bootle.

April 8.—London, E.C.—First-class Architectural Draughtsman for the Metropolitan Asylums Board. Clerk to the Board, Office of the Board, Embankment E.C. 4.

*April 10.—Barnack, Easton & Kotton.—Clerk of Works for the R.D.C.'s. Salary £7 per week. Clerk to the Councils, 25, Broad-street, Stamford.

April 10.—Bradford.—Quantity Surveyor for the City. Mr. W. Williamson, city architect, Town Hall, Bradford.

*April 10.—Gellygaer.—General Assistant. Salary £250 per annum. Junior Assistant. Salary £156 per annum, for the U.D.C. Clerk to the Council, Council Offices, Hengoed, Glam.

April 10.—Leeds.—Instructor.—Assistant Instructor in the Architectural Department of the Leeds School of Art. Salary, from £250 to £300, according to qualifications and experience.

April 10.—London.—Assistant Instructors in handicraft (woodwork). For the L.C.C. Salary £150 a year, rising by yearly increments of £10 to £240. Education Officer (E.2) London County Council Education Offices, Victoria Embankment, W.C.2.

*April 12.—Billericay.—Assistant Surveyor required by the R.D.C. Salary, £200 per annum. Mr. C. Edgar Lewis, clerk to the Council, New-road, Brentwood.

*April 12.—York.—Three temporary Architectural Assistants required by the city. Mr. F. W. Spurr, city engineer, Guildhall, York.

April 13.—Durham.—Superintendent of Works, also Heating Engineer required by the Education Department, Director of Education, Shire Hall, Durham.

*April 14.—Southampton.—Accountant and Junior Quantity Surveyor for a period of not less than one year, for the County. Salary at the rate of £250 per annum, including War Bonus.

*April 15.—Crewe.—Temporary Housing Clerk for the Borough. Salary £220 per annum.

*April 19.—Monmouth.—Clerk of Works and Costing and General Clerk for the Ebbw Vale U.D.C. Housing Scheme. Mr. P. I. Davies, Housing Architect, Council Offices, Ebbw Vale, Monmouth.

*April 19.—Walsall.—Building Inspector, for the County Borough. Salary £250 per annum.

April 9.—West Riding of Yorks.—Architectural Assistant for the C.C. Education Architect, County Hall, Wakefield.

No Date.—Horsham.—Clerk of Works for the U.D.C. Mr. A. Slyfield, clerk to the Council, 14, Market-square, Horsham.

*No Date.—London.—Building Assistant for the Northern Polytechnic Institute. Salary £225 to £315, according to qualifications and experience; maximum £440. The Secretary, Northern Polytechnic Institute, Holloway, N. 7.

*No Date.—Westminster.—Trench Clerk and assistant for the City. Salary £150 per annum. Town Clerk, Westminster City Hall, Charing Cross-road, W.C. 2.

*No Date.—West Sussex.—Architectural Assistant for the C.C. Salary, including bonus, £220 per annum. County Architect, Thurloe House, Worthing.

NEW COMPANIES.

The particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 & 117, Chancery-lane, W.C. 2, from the documents available at the Companies Registry.

Carver (Wolverhampton), Ltd. (164,692), Five Ways, Wolverhampton. Registered March 2. Builders' merchants. Nominal capital, £5,000.

C. & W. Crampton, Ltd. (164,755). 91, Odessa-road, Forest Gate, E. Registered March 3. Builders and general contractors. Nominal capital, £10,000.

H. E. Day & Sons, Ltd. (164,764). 26, Tennyson-road, Cowes. Registered March 3. Builders and contractors. Nominal capital, £1,000.

Electra Decorators, Ltd. (164,759). Registered March 3. Builders and contractors. Nominal capital, £2,000.

Frank Parvin, Ltd. (164,917). Lawrence-street, Mill Hill, N.W. 7. Registered March 6. Builders and contractors. Nominal capital, £5,000.

A. Wilfranks, Ltd. (164,786). 240, King-street, Hammersmith, W. Registered March 3. Lands, houses, estate agents, &c. Nominal capital, £1,000.

H. Wootton & Son, Ltd. (163,902). Registered February 10. 8, Station-street, Bloxwich, Stafford. Builders' merchants. Nominal capital, £3,000.

J. & F. Wootton, Ltd. (163,906). Registered February 10. 40, Pinfield, Bloxwich, Stafford. Builders and contractors. Nominal capital, £8,000.

Clacton Joinery & Manufacturing Co., Ltd. (165,206.) Registered March 13. Farifield-road, Clacton-on-Sea. Builders, general contractors.

Park Mead Brickworks, Ltd. (164,863.) Registered March 5. Ast-street, Ash, Surrey. Nominal capital, £6,000.

Bracklesham Bay Bungalows, Ltd. (165,105.) Registered March 11. 84, Braxton-hill, S.W. To build bungalows and other buildnigs. Nominal capital, £5,000.

R. McIvor & Sons (Newcastle). (165,143.) Registered March 11. 311, Cleveland-street, Birkenhead. Manufacturers and dealers in cement, concrete, stone, gravel, slate, &c. Nominal capital, £15,000.

J. A. Hodgson & Co., Ltd. (165,171.) Registered March 12. 48 Castle-street, Liverpool. Nominal capital, £3,000.

George Munday & Sons, Ltd. (165,164.) Registered March 12. 9 & 10, Boltolph-lane, E.C. Builders and contractors. Nominal capital, £20,000.

PATENTS.

APPLICATIONS PUBLISHED.*

122,186.—Domestic Engineering Co.: Valves or other parts exposed to heat and the cooling thereof.

138,664.—S. Crossfield: Collapsible or expandable boxes or cases.

138,668.—H. D. Kellogg: Radiators.

138,669.—W. G. Cook: Concrete slab walls of buildings.

138,690.—W. Small: Glazing bars, roofing bars, and capping strips.

138,692.—W. H. Coggan: Walls.

138,697.—G. Hutchinson: Structural members for girders and columns.

138,698.—B. Beckwith and A. E. Lake: Building-bricks.

138,702.—D. Lewis (D. Lewes): Reinforced concrete structures.

138,704.—W. Wharton: Pulley blocks and similar hoisting-gear.

138,716.—H. L. Barraclough: Construction of reinforced concrete floors.

138,727.—W. A. Wilson: Sliding windows and their frames.

138,738.—J. Angus: Construction of doors and other wooden frameworks.

138,743.—A. Whitford and F. J. Chell: Construction of tiled ash fronts and curbs for domestic fire-places.

138,751.—R. Vendome, J. Garget and H. Simart: Locks.

138,758.—R. A. Swainson: Means for raising and forcing water and other liquids.

138,769.—H. J. Tibbles and T. Gunn, Ltd.: Locks.

138,777.—G. R. Cumpston: Fastenings for gates, doors, &c.

138,782.—J. W. Steel: Ventilators.

138,784.—B. Verschueren: Boilers or water-heaters for central heating systems.

138,790.—S. Nuttall: Ventilators.

138,799.—H. Gronroos: Process for production of artificial stone or slabs of marble-like appearance.

138,809.—A. Hemsley: Disinfectant supply devices for flushing cisterns.

138,814.—C. G. Nobbs and W. W. Nobbs: Wall brackets for supporting radiators.

136,809.—A. A. Upson: Means for securing interior wall and ceiling coverings and linings.

138,979.—A. O. Thomas: Building block-ties.

139,010.—T. Lant: Concrete-block making machines.

* All these applications are now in the stage in which opposition to the grant of Patents upon them may be made.

PROFIT SHARING AND CO-PARTNERSHIP.

In the course of a lecture on "Profit Sharing and Co-partnership by Limited Liability Companies," delivered before a meeting of the Secretaries' Association on Tuesday last, Mr Herbert W. Jordan said that no particular scheme could be singled out as an ideal one for businesses of all descriptions, for a scheme that might be admirable for one trade might be unsuitable for another; and, even in different establishments engaged in operations of a similar character, different schemes might be desirable. Unless in administering a scheme, the principals were animated by a genuine desire to benefit the employees, it was likely, whatever shape it might take, to be productive of harm rather than good. It was the spirit underlying a scheme, rather than the particular lines on which it was planned, that counted. Much of the prevailing unrest could be traced to the conviction in the minds of the workers that it was not uncommon for large fortunes to be made by their employers without any special effort on their part. This gave rise to a quite intelligible feeling of resentment on the part of the workers that they were allowed no share in the "plunder." If it were shown that such employers were not animated by ungoverned greed, but were agreeable to allow their employees a reasonable share in the prosperity of the business, a calmer atmosphere in the industrial world would result.

He was not over-sanguine on the subject of profit-sharing unless some sound national scheme was adopted. Such a scheme could not fail to be of advantage to the community and also to the trade of the country. Employees would be more contented in establishments where the national scheme had been adopted and, although at the outset some slight sacrifice might be demanded of employers generally, they would probably find that the keener interest and greater initiative displayed in the work by the staffs would be reflected in the balance sheets, and that in the long run the increased profits would more than compensate for the amounts payable to the employees under the scheme. But a national scheme must be the result of careful study, as an ill-conceived one would be productive of much mischief; also, it must be on a voluntary basis. Many problems would have to be solved, one of the most difficult being to find a method of determining what should be the maximum remuneration that an active director or employer should receive in return for his services and what should be the minimum wages of the employees in their respective grades and capacities. It was obvious that rates of payment must be regulated to some extent, or grasping employers would assess the value of their own services at an immoderately high figure and the services of their employees on too modest a scale, and the unfortunate employee would have no remedy. But before State regulation of wages was determined on, it might be profitable for a Commission to be appointed to inquire into the effect of similar proceedings in the past.

The lack of confidence between employers and employees so general to-day was often attributed largely to the limited liability system, and if a national scheme of an elastic character were in operation, directors of limited companies would be afforded a magnificent opportunity of wiping out the reproach. Owing to the growth of commerce, the managing director of a company (or head of a firm) was not able to maintain the same personal relationship with his employees as his predecessors of fifty or more years ago, but a national scheme of profit-sharing would enable him to give tangible expression to his goodwill which his employees would undoubtedly appreciate.

New Railway Rates.

A pamphlet has been prepared by the Railway Clearing House (Seymour-place, Euston-square, N.W.), showing the effect of the new railway rates on the cost of living. The rates selected cover the carriage of foodstuffs and merchandise to towns in all parts of Great Britain.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.	£ s. d.
Best Stocks	4 10 0

Per 1000, Delivered at London Goods Stations.	£ s. d.
Flettons	3 2 6
Best Stourbridge Fire bricks	11 10 0

	£ s. d.
Best Blue Pressed Staffordshire	9 11 0
Do. Bullnose	9 13 6
Blue Wire Cuts	7 18 6

GLAZED BRICKS—

	£ s. d.
Best White, Ivory, and Salt Glazed Stretchers	24 0 0
Headers	23 10 0
Quoins, Bullnose and 4½in. Flats	29 10 0
D'ble Str'tch'rs	31 10 0
D'ble Headers	28 10 0
One Side and two Ends	32 10 0
Two Sides and one End	33 10 0
Splays and Squints	31 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

	s. d.		
Thames Ballast	19 6	per yard.	delivered
Pit Sand	23 6		
Thames Sand	25 6	" "	2 miles
Best Washed Sand	24 6	" "	radius
½in. Shingle for Ferro-Concrete	23 6	" "	Paddington.
¼ in.	24 6	" "	

Per ton. delivered in London area.

	£ s. d.	£ s. d.
Best Portland Cement	3 18 6 ..	4 4 0

71/6 alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above.	5 0

Best Ground Blue Lias Lime 2 16 0 at rly. depot.

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks. The sacks are charged at 2s. 6d. each and credited at 2s. each if returned in good condition within three months.

Grey Stone Lime ..... 61s. 0d. per ton delivered.
Stourbridge Fireclay in s'cks 43s. 6d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 2½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	2 4
Do. do. delivered on road waggons at Nine Elms Depot	2 5
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Mileage Station G.W.R., per ft. cube	4 3
Do. do. delivered on road waggons at above stations, per ft. cube	4 4
White basebed, 3d. per ft. cube extra.	
NOTE.—½d. ft. cube extra for every foot over 30 ft. average, and ½d. beyond 30 ft.	
YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station London.	s. d.
Scappled random blocks ..... Per Ft. Cube	11 9
6 in. sawn two sides landings to sizes (under 30 ft. super.) ..... Per Ft. Super	8 1½
6 in. rubbed two sides, ditto ..... "	9 1½
9 in. sawn two sides slabs (random sizes) "	3 7½
2 in. to 2½ in. sawn one side slabs (random sizes) ..... "	2 2
1½ in. to 2 in. ditto, ditto ..... "	1 10
HARD YORK— Delivered at any Goods Station London.	
Scappled random blocks ..... Per Ft. Cube	8 9
6 in. sawn two sides landing to sizes (under 40ft. super.) ..... Per Ft. Super	7 0
6 in. rubbed two sides ditto ..... "	8 3
4 in. sawn two sides slabs (random sizes) "	3 3
3 in. ditto, ditto "	4 4
2 in. self-faced random flags .. Per Yard Super	10 6

WOOD.

GOOD BUILDING DEAL.

Inches	£ s.	
4 × 11	60 0	per standard
4 × 9	48 0	"
4 × 8	46 5	"
4 × 7	46 0	"
3 × 8	46 0	"
3 × 7	46 0	"
2½ × 7	46 0	"
3 × 6	45 0	"
3 × 11	60 0	"
2 × 11	60 0	"
3 × 9	52 0	"
3 × 9	52 0	"
3 × 4½	45 0	"
3 × 4	45 0	"

PLANED BOARDS.

1 × 11	65 0	"
1 × 9	50 0	"

PLAIN EDGE FLOORING.

Inches		
⅞	34/-	square
1	40/-	"
1¼	44/-	"
1½	55/-	"
1¾	65/-	"

TONGUED AND GROOVED FLOORING.

Inches		
1	47/6	square
1¼	52/6	"
1½	60/6	"

WOOD (*Continued*).

MATCHINGS (BEST).

Inches		
⅞	34/-	square
1	40/-	"
1¼	54/-	"

BATTENS.

Inches	£ s.	
1 × 2	39 10	per standard

SAWN LATHS.

Per bundle	—

Dry Wainscot Oak, per ft. super, as inch	0	2	6	to	0	3 0
¼ in. do. do.	0	2	0	to	0	2 6
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0	2	6	to	0	3 0
Cuba. Mahogany	0	3	6	to	0	4 0
Teak (Rangoon, Moulmein or Java), per load	60	0	0	to	85	0 0
American Whitewood planks, per ft. cube	0	18	0	to	1	0 0
Scotch Glue, per cwt.	5	5	0	..	—	
Liquid Glue, per gallon	0	17	0	..	—	

SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

		£ s. d.
Best Blue Bangor Slates,	24 by 12	55 0 0
	22 by 12	44 7 6
First quality " "	22 by 11	40 15 0
	20 by 12	40 7 6
Best Blue Portmadoc	20 by 10	35 0 0
" "	18 by 10	27 17 6
First quality "	18 by 9	22 15 0
" "	16 by 10	21 10 0
" "	16 by 8	16 17 6

TILES.

Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or	6 0 0
Staffordshire district	6 15 0
Ditto hand-made ditto	7 0 0
Ornamental ditto	7 2 6
Hip and valley tiles (per dozen)	0 15 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

	£ s. d.
R. S. Joists, cut and fitted	30 0 0
Plain Compound Girders	32 0 0
" Stancheons	34 0 0
In Roof Work	39 0 0

WROUGHT-IRON TUBES AND FITTINGS—(Discount off List for lot of not less than £10 net value delivered direct from works. 5 per cent. less carriage forward if sent from London stocks.)

	Sizes up to and including 2 in. Tubes.	Fittings.	Sizes 2½ in. to 6 in. Tubes.	Fittings.
Gas	10	12½	12½	25
Water	1½	7½	5	22½
Steam	+8½	—2½	+3½	—20
Galvanised Gas	+15	—2½	+12½	—15
" Water	+26½	+2½	+22½	—12½
" Steam	+37½	+7½	+32½	—10

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6 fts.	5 6	4 0	4 10
2½ in. " "	6 8	4 5	6 0
3 in. " "	8 1	4 10	7 3
3½ in. " "	9 0	6 0	8 5
4 in. " "	9 6	6 10	9 8

RAIN-WATER PIPES, &c.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts. plain	4 0	2 3	3 0
2½ in. " "	4 6	2 8	3 8
3 in. " "	5 6	3 3	4 10
3½ in. " "	8 6	3 10	5 8
4 in. " "	6 9	4 8	6 10

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices. 4 in., 12s. .. 5 in., 15s. .. 6 in., 18s.

	Per ton in London. £ s. d.		£ s. d.
IRON— Common Bars	32 0 0	to	33 0 0
Staffordshire Crown Bars—good merchant quality	33 0 0	..	34 0 0
Staffordshire "Marked Bars"	34 0 0	..	35 0 0
Mild Steel Bars	34 0 0	..	35 0 0
Steel Bars. Ferro-Concrete quality, basis price	34 0 0	..	35 0 0
Hoop Iron, basis price	38 0 0	..	40 0 0
" " Galvanised	56 0 0	..	60 0 0
Sheet Iron Black— Ordinary sizes to 20 g.	48 0 0	..	50 0 0
" " 24 g.	49 0 0	..	51 0 0
" " 26 g.	51 0 0	..	53 0 0
Sheet iron, Galvanised flat, ordinary quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	56 0 0	..	58 0 0
Ordinary sizes to 22 g. and 24 g.	57 0 0	..	59 0 0
Ordinary sizes to 26 g.	59 0 0	..	60 0 0
Ordinary sizes to 20 g. .. 22 g. and 24 g.	56 0 0	..	58 0 0
	57 0 0	..	59 0 0
Ordinary sizes to 26 g.	59 0 0	—	60 0 0

METALS (*Continued*).

	Per ton in London. £ s. d.		£ s. d.
Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 8 ft. 20 g.	58 0 0	..	60 0 0
Ordinary sizes, 22 g. and 24 g.	59 0 0	..	61 0 0
Ordinary sizes, 26 g.	60 0 0	..	62 0 0
Sheet Iron, Galvanised, flat, best quality— Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	58 0 0	—	60 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	59 0 0	..	61 0 0
Best Soft Steel Sheets, 26 g.	61 0 0	..	62 0 0
Cut Nails, 3 in. to 6 in.	37 10 0	..	38 0 0

(Under 3 in. usual trade extras.)

LEAD, &c.

Delivered in London.

	£ s. d.		
LEAD Sheet, English, 4 lb. and up	61 0 0	..	—
Pipe in coils	61 10 0	..	—
Soil Pipe	64 0 0	..	—
Compo pipe	65 0 0	..	—

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. per cwt. extra.

Old lead, ex London area, at Mills ..... per ton	41 10 0	..	—
Do., ex country, carriage forward ..... per ton	42 10 0	..	—

COPPER—				
Strong Sheet .... per lb.	0	2	3	.. —
Thin " .... "	0	2	4	.. —
Copper nails .... "	0	2	3	.. —
Copper wire .... "	0	2	4	.. —
TIN—English Ingots "	0	4	0	.. —
SOLDER—Plumbers' "	0	1	10	.. —
Tinmen's "	0	2	6	.. —
Blowpipe "	0	2	11	.. —

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

Per Ft.		Per Ft.
15 oz. fourths .... 8d.	32 oz. fourths	11d.
" thirds ..... 8½d.	" thirds	1/-
21 " fourths .... 9d.	Fluted, Obscured and	
" thirds ..... 9½d.	Enamelled Sheet.	
26 " fourths .... 10d.	15 oz.	10d.
" thirds ..... 11d.	21 "	1/-

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
Rolled plate	6½d
Rough rolled and rough cast plate	7½d.
Rough rolled and rough cast plate	8½d
Figured itolled, Oxford Rolled, Baltic, Oceanic Arctic, Stippolyte, and small and large Flemish white	7½d.
Ditto, tinted	9½d
Rolled Sheet	7d
White Rolled Cathedral	7d
Tinted do.	9½

PAINTS, &c.

		£ s. d.
Raw Linseed Oil in pipes ..... per gallon		0 11 9
" " " in barrels .... "		0 12 0
" " " in drums .... "		0 12 2
Boiled " " in barrels .... "		0 12 6
" " " in drums .... "		0 12 9
Turpentine in barrels ..... "		0 20 4
" in drums (10 gall.) .. "		0 20 10
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		90 15 0
GENUINE WHITE LEAD PAINT— "Nine Elms," "Park," "Supremus," and other best brands (in 14 lb. tins) not less than 5 cwt. lots.. per ton delivered		124 5 0
Red Lead, Dry (packages extra) ..	per ton	75 0 0
Best Linseed Oil Putty	per cwt.	1 14 0
Filocol	per cwt.	0 18 0
Size. X D Quality	fkn.	0 6 6

VARNISHES, &c.

	Per gallon. £ s. d.
Oak Varnish ..... Outside	0 18 0
Fine ditto ..... ditto	1 0 0
Fine Copal ..... ditto	1 1
Pale Copal ..... ditto	1 2 6
Pale Copal Carriage ..... ditto	1 4 6
Best ditto ..... ditto	1 14 6
Floor Varnish ..... Inside	0 19 0
Fine Pale Paper ..... ditto	0 10 0
Fine Copal Cabinet ..... ditto	1 2 6
Fine Copal Satting ..... ditto	1 0 6
Hard drying Oak ..... ditto	0 18 0
Fine Hard drying Oak ..... ditto	0 19 0
Fine Copal Varnish ..... ditto	1 0 6
Pale ditto ..... ditto	1 2 6
Best ditto ..... ditto	1 14 6
Best Japan Gold Size	0 16 6
Best Black Japan	0 19 0
Oak and Mahogany Stain (water)	0 10 0
Brunswick Black	0 11 0
Berlin Black	0 16 0
Knotting (patent)	1 18 6
French and Brush Polish	1 11 0
Liquid Dryers in Terebine	0 19 0
Cuirass Black Enamel	0 7 0

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

NEW INVENTIONS.

THE "HARDY" SYSTEM OF CONSTRUCTION.

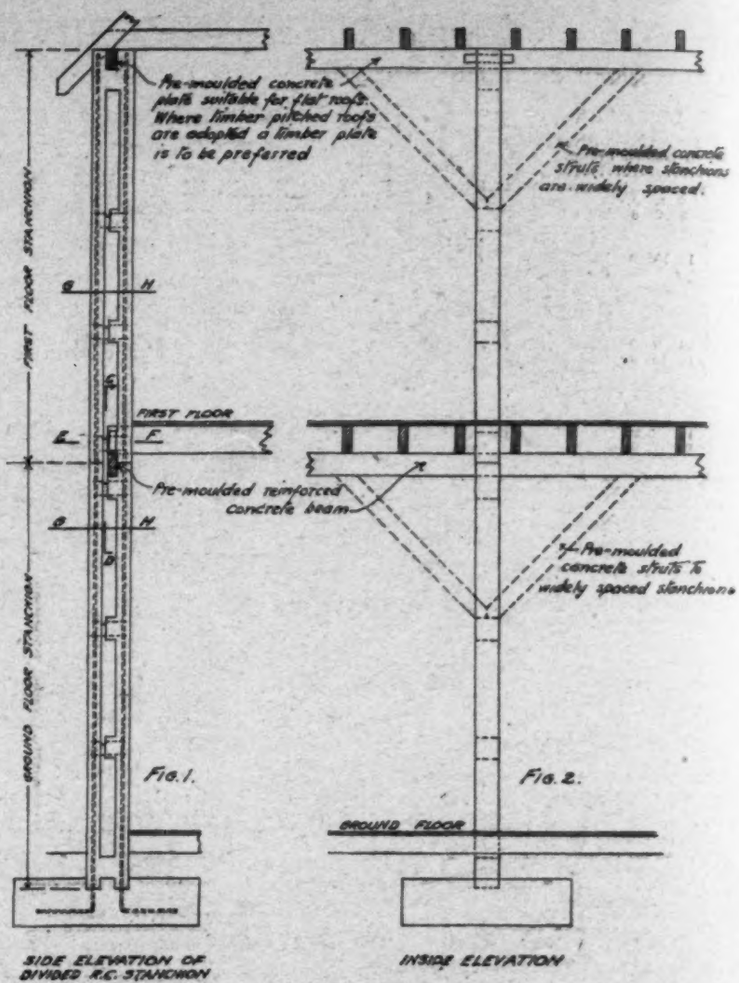
THIS method of building is primarily intended for use in the construction of cottages and working-class houses, as it is particularly applicable to buildings where the floor and roof spans are comparatively small, and the loads transmitted to foundations inconsiderable. By this method of constructing external hollow walls, the whole of the weight from floors and roofs is taken by the reinforced concrete stanchions, the walls between the stanchions being merely for the purpose of excluding the weather and insulating the interior against changes of temperature. To ensure a continuous air space, the stanchions are constructed of two parts, an inner and an outer post.

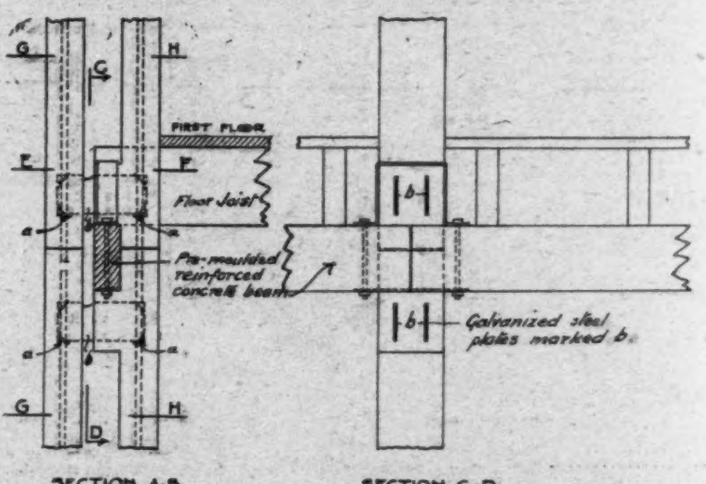
The stanchions are of pre-moulded reinforced concrete, each half about 6 in. by 3 in. with about a 3 in. space between. They may be moulded in one piece for the whole height, but this is not advisable, save in special circumstances, owing to the weight and liability to damage in handling if made too long. They should be constructed in heights approximating the heights of the floors, and their weight would be from 3 to 3½ cwts. in ordinary cases. Each half is reinforced with two vertical mild steel circular bars from ¾ in. to ⅞ in. diameter, connected together in the concrete by means of flats marked "*a*," having circular holes. The flats are slipped on to the bars from the ends and wired on at intervals of about 15 in. vertically. The connection between the inner and outer concrete posts is formed by two galvanised steel plates marked "*b*," about 3½ in. by ⅛ in., resting at each end on similar flats, and wired to the vertical bars. They are embedded in concrete projections continued from the outer face of the inner posts to 1 in. from the inner face of the outer posts; they, therefore, have only 1 in. to span where unsupported by the concrete, and are thus very strong considered as ties, struts or beams. The vertical bars of the ground floor stanchions are left projecting at the base, those to the inner posts are afterwards bent inwards, and those to the outer posts outwards in the concrete foundation slabs in which additional bars may be introduced as necessary. The first floor stanchions also have all vertical bars left projecting at the base, in this case only 1 in.; these fit into gas barrel sleeves cast in the top of the lower stanchions. The beams supporting floors are of pre-moulded reinforced concrete and are fixed in the air space between the inner and outer walls. The methods by which these beams are fixed to stanchions, floor and roof give both transverse and longitudinal strength.

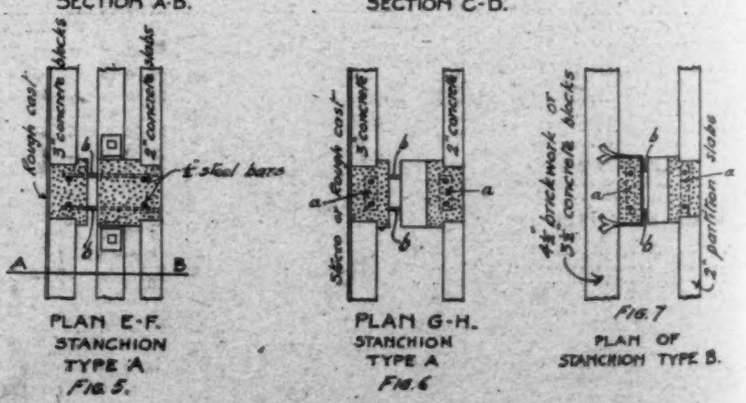
For fixing the outer walls to the stanchions galvanised iron ties passing at the back of the outer post and built into the wall joints at intervals vertically to suit the particular wall adopted, would be provided. Additional ties are also provided at each side of all door and window openings.

As regards architectural designs, the stanchions may form a feature of the exterior, in which case they are grooved on the side to receive the exterior half of the wall and rebated for the inner walling. Where the exterior is intended to be covered with rough cast, rendering or cement wash, the stanchions may be of the type shown on plan in figs. 5 and 6. Where the external walling demands an unbroken surface treatment, the stanchions shown in fig. 7 should be adopted, the inner half in each case being constructed of 2 in. breeze slabs. The beams supporting the roof may be either of timber or pre-moulded concrete. The walls may have the outside half constructed of 3 in. concrete blocks, slabs or brickwork, and the inner half of 2 in. breeze concrete slabs, or similar self-supporting partitions.

Ease and rapidity of erection is ensured by the adaptability of this method of construction to any available material. The invention, which has been approved by the Ministry of Health, has been provisionally patented by Mr. T. Elson Hardy, Lic.R.I.B.A., of 12, Delamere-street, W.


Pre-moulded concrete plate suitable for flat roofs. Where timber pitched roofs are adopted a timber plate is to be preferred
Pre-moulded concrete struts where stanchions are widely spaced.
GROUND FLOOR STANCHION
FIRST FLOOR STANCHION
FIRST FLOOR
Pre-moulded reinforced concrete beam
Pre-moulded concrete struts to widely spaced stanchions
Fig. 1.
Fig. 2.
GROUND FLOOR
SIDE ELEVATION OF DIVIDED R.C. STANCHION
INSIDE ELEVATION





PROPOSED NEW BUILDINGS AND OTHER WORKS.*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

ALDERLEY EDGE.—The local authority has now passed schemes for new houses. Each house will stand in its own garden, and with two exceptions will include parlour, kitchen, scullery, three bedrooms, and bath. There will be several blocks, and one house in each block will have an extra bedroom. The schemes are expected to cost nearly £30,000.

BLYTH AND CUCKNEY.—It was reported to the R.D.C. at its last meeting that the Harworth Colliery Co. had decided to build the new colliery village on the old site near Plumtree Farm. The Council approved of the erection of 12 cottages and six brick huts for the company. Plans were sent by Major F. Willey for the erection of six cottages in place of the Council's proposal to build houses there. The Council expressed the opinion that the plans were not up to the standard adopted by the Council recently. They were of the non-parlour type with three bedrooms upstairs. The Council, however, required a parlour, living-room, and scullery on the ground floor and three bedrooms, and for that reason the plans were disapproved.

BO'NESS.—Plans passed: Cottage for Mr. D. Cameron.

BOLSOVER.—The U.D.C. proposes to erect 99 houses at a cost of about £80,000, and at their monthly meeting it was decided to make formal application for permission to purchase land in Moor-lane.

DUNFERMLINE.—At a sitting of Guild Court, Mr. Henry Mackay, canteen manager, Rosyth, was granted a warrant to remove his canteen from the tin hutments, Rosyth, to the Garden City, Rosyth. The building is only of a temporary character, and it is proposed to erect on the site an up-to-date hotel within a period of five years.

HACKNEY.—Buildings, 28 and 30, Hackney-grove, Messrs. J. Hamilton & Co., for Mr. F. C. Battlebury; building, south eastern side of Middlesex-place, Mr. E. J. Shelmerdine, for B. J. Hall & Co., Ltd.; sheds and sanitary works, 122, Dalston-lane, for Mr. E. Setchell; alterations, etc., 3, Tyssen-road, for Mr. F. E. Mason.

HARROW.—The Board of Education has approved of the site in Greenhall-crescent for a school for the Middlers E.C.

HESTON AND ISLEWORTH.—Plans passed by U.D.C.: Messrs. Morgan & Sons, for additions to the "Old White Bear" London-road, Hounslow; Mr. H. W. Hiscock, for additions to "Hollydene," Lampton-road, Hounslow.; Messrs. Edmond Coignet, Ltd., for factory buildings, Norwood-court, Heston; Mr. H. Osborne Grice, for extension to drawing-room, 116, Thornbury-road, Isleworth; Messrs. Roper, Son & Chapman, for detached house, Bath-road, Hounslow.

ILFORD.—Plans passed by U.D.C.: Mr. E. T. Dunn, 6 houses, Wallington-road; Messrs. Hammond & Wiles, additions, 88, High-road; Mr. W. J. Hobbs, garage, 334, Cranbrook-road; Mr. E. T. Dunn, house, for Mr. G. W. Tee, in Meidrum-road; Mr. W. G. Lewis, Hainault-street, alterations to 143, Ley-street; Mr. S. Nicholls, 70, Blythswood-road, additions, 70, Blythswood-road; Mr. F. H. Fox, addition at the Turner Drug and Galenical Store, Roden-street; Mr. F. G. Faunch, house, 4, Beatyville-gardens; Mr. W. J. Hobbs, addition to 294, Cranbrook-road; Mr. W. J. Cearns, 17, The Drive, extension to garage.

KINGSBURY.—A site of four acres near Fern Dene has been secured by the Middlesex E.C. as a site for a new school.

PRESTON.—Plans passed: David Hall & Co., shop front, 28, Fishergate; Mr. E. J. M. Herling, motor garage, Powis-road; Shell Marketing Co., Ltd., mess room, Dock Land; Mr. Henry Heaton, for Thos. Morley, alterations and additions, Tulketh Brow; Mr. Thos. Dryden & Sons, additions, Grimshaw-street; Mr. P. H. S. Shepperd, for R. N. Hull, two houses, Hastings-road; Mr. Percy, J. Westwood, for Messrs. Austin Reid, Ltd., alterations, &c., 130 & 131, Fishergate; Mr. A. C. M. Lillie, for Preston Royal Infirmary, new ward, Royal Infirmary, Stanleyfield-street; Messrs. G. & R. Dewhurst, Ltd., additions, &c., Arkwright Mill, Greenbank-street; Mr. A. Harrison, for Messrs. N. Harrison & Co., alterations, 196, Corporation-street; Messrs. J. H. & W. C. Mangan, for Messrs. T. L. Robinson, Ltd., new roof over yard, Avenham-street; Messrs. Wood Milne, Ltd., plate and steel store, River-street (Ribble Bank Mills); Mr. John Baines, workshop, &c., 30, High-street; Mr. J. J. Fowler, woodsheds, Derby-street; Mr. Miles Myres, for Jos. Eccles, two houses, Frenchwood-avenue; Messrs. Longworth & Gardner, for Mr. Jas. Foster, motor garage, Waterloo-road; Mr. R. E. Smalley, motor garage, Mulgrave-avenue, Glenburn.

RUGBY.—Plans passed by U.D.C.: Miss E. C. G. Harris, house in North-street; Messrs. Ewer Bros., workshop, Frederick-street; Mr. J. W. Faulkner, alteration to premises and re-building workshops, &c. 3, Drury-lane; Mr. C. H. Rainbow, four houses, Maple-grove; Mr. F. A. and Mr. A. Ponting, conversion of store room into flat, Central Garage, Little Church-street.

SELBY.—The Riccall R.D.C. have approved the plans for 62 houses submitted by the Selby Warehousing and Transport Company (Ltd.), carriers for the Olympia Oil and Cake Company, and allied undertakings. Approval of plans for 44 other houses has been deferred until certain conditions are complied with.

STANLEY.—Plans passed by U.D.C.: Stable, &c., Standish-street, South Moor, for Mr. J. Hunter; reconstruction of out offices, 34, Front-street, for the North Eastern Breweries, Ltd; two houses, East Parade, East Stanley, for Mr. P. Hill; eight houses, for the South Derwent Coal Co.

STEPNEY.—Factory, 39, Commercial-road, for Mr. E. H. Abbott; addition, 59, Hessel-street, for Messrs. Adams & Coles.

TROWBRIDGE.—Plans passed by T.C.: Two houses, for Mr. A. J. Culverhouse; addition to farmhouse,

Type.	†S. F. Swift, Birmingham. Per House.	W. Bishop, Birmingham. Per House.	Wm. Sapcote & Sons, Birmingham. Per House.	Hy. Boot & Sons (London) Ltd., Sheffield. Per House.	E. Thompson & Co., Birmingham. Per House.
A. ..	£907 10	£934	£927 10	£977	£949 0
A1. ..	926 0	970	960 0	976	—
B. ..	888 0	925	915 10	929	910 0
B1. ..	892 0	905	900 0	940	—
C. ..	878 10	930	917 0	932	912 10
C1. ..	875 0	923	911 10	927	908 10
D. ..	898 0	930	923 10	978	—
D1. ..	928 0	977	965 0	985	—
F. ..	888 10	911	907 10	962	—
F1. ..	900 0	944	937 0	961	—
G.* ..	1,082 0	1,130	1,121 0	1,159	—
G1.* ..	1,086 10	1,150	1,140 10	1,157	—
	Drainage .... £3,959 extra	Drainage .... extra. ..	Drainage .... extra.	Basis price (fixed profit system).	

* Shops.

Drysham, for Mr. Jones; extensions to Burnett Rubber Factory; billiard room at Gloucester-road Club.

WILLESDEN.—Plans passed:—Five houses, All Souls'-avenue, Harlesden, by and for Messrs. G. Ball, Ltd., two houses, Gladstone Park-gardens, by and for Mr. F. W. Brealy; workshop, rear of Langton-road, Cricklewood, by Mr. J. Catton, for The Broadway Properties, Ltd.; alteration to shop premises, No. 155, Cricklewood Broadway, Cricklewood, by Mr. W. H. Cockroft, for The Aerated Bread Co., Ltd.; alterations at No. 11, Kilburn-lane, Kilburn, by Mr. D. H. Mays, for Mr. Carrick; office building, Cricklewood Broadway, Cricklewood, by Mr. J. Catton, for The Broadway Properties, Ltd.; motor garage, (Ellerslie), Uffington-road, by Mr. H. Sidney Grainger, for Mr. T. Illingworth; conservatory, No. 2, Nicol-road, Harlesden, by Messrs. G. Penny & Co., for Dr. C. Rawes; additions, Cumberland-avenue, Park Royal, by Messrs. Saville & Martin, for Messrs. F. W. Berwick & Co.; lavatories at rear of No. 56, Barry-road, Stonebridge, by Mr. H. Shaw, for Mr. J. White; alterations and additions to form shop premises, Nos. 29, 30, 31, Park Parade, Harlesden-road, Harlesden, by Mr. H. Shaw, for Mr. William Bennett; rebuild workshop, Denzil Works, Denzil-road, Willesden, by Mr. M. E. Walker, for Messrs. Howard Howes & Co., Ltd.; motor garage, White Heather Laundry, Brentfield-road, Harlesden, by Messrs. Mark W. King & Sons, for the White Heather Laundry Co., Ltd.; factory premises, Oakfields-road, Cricklewood, by and for the Imperial Dry Plate Co., Ltd.; eight houses, Liddell-gardens, Kensall Rise, by and for Messrs. W. & E. Morgan; new hall, No. 114, High-street, Harlesden, by Mr. H. Hart; addition to factory, Winchelsea-road, by Mr. H. Shaw, for The Stella Lamp Co., Ltd.; alterations at No. 128, Church-road, Harlesden, by Mr. H. Shaw, for Mr. J. C. Stephen.

WOOD GREEN.—The Middlesex E.C. has secured a site of five acres at Alexandra Park for a secondary school.

FIRES.

GLASGOW.—Fire has occurred in the boot and leather warehouse of Messrs. E. Tainsh & Co., 591, Argyle-street.

GOLCAR.—Serious damage has been done by fire to Wellhouse Schools, owned by the Wellhouse United Methodist Church.

LLANGOLLEN.—The extensive Welsh flannel works owned by Mr. Stephen Lloyd Jones, situated at Mile End, have been completely destroyed by fire, damage being caused estimated roughly at between £20,000 and £30,000.

The Relaxation of Trade Union Regulations.

In the House of Commons last week, Major H. Barnes, F.R.I.B.A., asked what relaxation of trade union regulations would increase the number of skilled men in the building trade, and what period must elapse before such relaxation became effective. Mr. Lloyd George, in reply, said that a relaxation of the rules would undoubtedly lead to an increase in the number of skilled men, and there was no doubt that the course would accelerate very considerably the restoration of the industry to its pre-war numerical strength. He could not agree that the figures produced at the recent trade-union conference disproved his charge, and an insistence on rules and regulations had hampered the progress of housing schemes. He was, however, hopeful that trade unions would be induced to give more assistance in this respect.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him *not later than first post on Wednesday.*

* Denotes *accepted.* † Denotes *provisionally accepted.*

‡ Denotes *recommended for acceptance.*

§ Denotes *accepted subject to modifications.*

BIRMINGHAM.—For the erection of 193 houses and shops on the Pineapple Farm Estate, King's Heath, Messrs. Harrison & Cox, architects, 109, Colmore-row, Birmingham:—

§Wm. Sapcote & Sons	£927,000
Hy. Boot & Sons (London) Ltd.	£977,000
E. Thompson & Co.	£949,000

* Shops.

CARLISLE.—For erection of house in Pugin-street, for Mr. Ryan. Mr. H. H. Hodgkinson, architect and surveyor, 64, Lowther-street, Carlisle:—

* J. Hill (Builder), Carlisle	£256 5 0
*W. Martin (Joiner), Carlisle	257 6 4
*D. Thomson & Sons (Plumber), Carlisle	75 5 4
*J. Hewitson (Slater), Carlisle	22 0 0
*Exor. D. Johnson (Plasterer), Carlisle	54 10 0
*T. Armstrong (Painter), Carlisle	25 0 0
	£690 6 8

DARTFORD.—For sundry repairs and re-decorations to the Infirmary Wards, at the Institution, Westhill, Dartford, for the Dartford B.G. Mr. Robert Marchant, architect:—

*H. Friday & Son, Erith	£4,490 0
Edwards Construction Co., Ltd., Blackheath	4,797 10
J. Hockins & Co., Old Charlton	4,923 0
W. F. Blay, Dartford	5,648 0
J. Scott Feun, Woolwich	6,767 0

DENHAM PLACE.—For erection of 12 cottages on Denham Place Estate, for the Small Holdings Committee of the Middlesex C.C.:—

*Y. J. Lovell & Son, Gerrard's Cross	£8,918 0 0
W. J. Dickens, Ealing	9,567 0 0
Collinson & Co., Teddington	9,625 0 0
W. Lawrence & Sons, Finsbury-square, E.C.	9,750 0 0
R. Knight & Son, Tottenham	9,762 0 0
W. S. Try, Cowley	9,763 0 0
A. Monk, Lower Edmonton	9,982 0 0
A. & B. Hanson, Ltd., Southall	10,628 0 0
Gibson & Co., Golders Green	10,820 0 0
W. Lacey, Hounslow	12,075 0 0
E. Plaistowe, Southall	12,150 2 6
Brand, Pettitt & Co., Tottenham	12,625 0 0

EDINBURGH.—For extension of the Tramway Depot, Shrubhill, for the T.C. Mr. J. A. Williamson, City Architect, Edinburgh:—

*Bain & Brown, Ltd., Mason and Joiner Work, Edinburgh	£5,757
*Redpath, Brown & Co., Structural Steel, Edinburgh	2,184
*A. Cunningham & Co., Glazier, Edinburgh	337
*Jas. Duncan & Son, Slater, Edinburgh	284
*D. Blake & Co., Plumber, Edinburgh	981
*Wm. Stewart, Plaster, Edinburgh	827

EDINBURGH.—For the erection of a verandah, stairs, &c., at Canongate Day Nursery, Dumbredykes, for the T.C. Mr. J. A. Williamson, City Architect, Edinburgh:—

*David Rae (all trades), Edinburgh	£332 7 11

EDINBURGH.—For the erection of 21 blocks of houses at Gorgie, for the T.C. Mr. J. A. Williamson, City Architect, Edinburgh:—

Wm. Black & Sons (Mason and Brick), Edinburgh	£24,943 0 0
J. Duncan & Son (Joiner), Edinburgh	19,805 0 0
Robert Graham (Glazier), Edinburgh	342 16 6
W. Anderson & Sons (Slater), Edinburgh	4,351 7 9
D. Fisher & Sons (Plaster), Edinburgh	5,424 6 0
James M. Inglis (Plumber), Edinburgh	8,843 16 0

FOLKESTONE.—For erection of 24 houses, for the T.C.; Mr. A. E. Nichols, Borough Engineer Folkestone:—

Contract No. 1 (12 *houses*)—	
1. J. G. Parsons & Son, Folkestone	£10,854
2. " " " "	10,920
3. " " " "	10,943
4. " " " "	10,980
5. " " " "	11,760
Contract No. 2 (12 *houses*)—	
1. J. G. Parsons & Son, Folkestone	£9,312
2. " " " "	9,384
3. " " " "	9,806
4. " " " "	9,948
5. " " " "	10,572

* See also our List of Competitions, Contracts &c

ESHER AND ISLEWORTH.—For supply of materials to the U.D.C. :—

*John Mowlem & Co.—Guernsey granite at 22s. 7d. per cubic yard, and chippings at 15s. 7d. per cubic yard.

*Thos. Clayton (Oldbury), Ltd.—Sixty thousand gallons of tar at 10d. per gallon.

H.M. OFFICE OF WORKS (accepted during February) :—

Building Works, &c.—Acton, erection of offices for Ministry of Pensions : Walker Jones & Sons, London, S.W. Forest Gate, erection of Post Office, &c. : Marrable Bros., London, E. Hackney, erection of temporary Employment Exchange : G. Groves & Son, London, W. Heath Hill, erection of cottages, &c. : Alfred T. Pointon, Shifnal. Leicester, adaptation of hospital : E. O. C. Howells, Coventry. Marylebone, erection of temporary Telephone Exchange : W. H. Cooper, London, W. Petersfield, erection of Post Office : The Building and Public Works Construction Co., Ltd., Swindon. Swindon, alterations to Employment Exchange : The Building and Public Works Construction Co., Ltd., Swindon.

Engineering Services.—Crewe Lactose Factory, water supply main and drain : G. Percy Trentham, Ltd., Birmingham. Manchester Pensions Offices, electric passenger lift : Maryatt & Scott, Ltd., London, E.C.

HOLMFIRTH.—Completion of service reservoir, for the U.D.C. Messrs. J. Barraclough & Sons, engineers, Holmfirth :—

*G. Greasley, Leicester	£3,961 1 8
W. Waring & Son, Huddersfield	4,967 11 6
John Cocke, Huddersfield	4,871 16 6
Wagstaff & Turner, Holmfirth	4,700 0 0
R. Turner & Co., Holmfirth	3,760 0 0
Engineer's Estimate	3,421 7 6

ILFORD.—Erection of 2 concrete houses at Tomswood Hill, for the U.D.C. :—

*J. Pottigrew, Seven Kings..... £900 each

LEEK.—For making up new street for the U.D.C. :

Taylor & Sons, Basford	£24,699 1 10
*Sanders & Torrance, Stoke	£5,181 14 4

LONDON.—For supply of wood paving blocks for the repairing of Lower Kennington-lane, Waterloo-road, and Westminster Bridge-road, for the Lambeth B.C. :—

	Per yard super. 4½ in. blocks.	5 in. blocks.
	s. d.	s. d.
*Improved Wood Pavement Co., Ltd.	22 11	26 6
The Acme Flooring and Paving Co. (1904), Ltd., Victoria Park	23 6	26 10
Messrs. J. Mowlem & Co., Ltd., Westminster	24 8	28 0
Messrs. Wm. Griffiths & Co., Ltd., Bishopsgate	25 0	30 0

LONDON.—For erection of 16 dwellings on Rodenhurst site, for the Lambeth B.C. :—

*Lole & Co.	£13,900

LONDON.—Erection of building containing 40 tenements, at Hercules-road, S.E. for the City Corporation :—

*W. Lawrance & Sons	£61,450

LONDON.—For extension of electricity sub-station, for the Hackney B.C. :—

* L. H. & B. Roberts, Clapton	£4,621
Stapleton & Sons, Stoke Newington	4,490
Marrable Bros., Leytonstone	4,460
W. Shurmur & Sons, Ltd., Clapton	4,402
Barrett & Power, Hackney	4,662

LONDON.—For the supply of materials to the Hackney B.C. :—

*A. & F. Manuelle—Broken granite and granite chippings at from £1 9s. to £1 13s. per ton.

*King & Scarbrough—Timber, £969 0s. 6d.

*Swinden & Co.—Iron and ironmongers', £966 6s. 10d.

*C. H. Penfold—Plumber's work, £102 1s. 4d.

LONDON.—Roofing at boiler house of generating station, for the Stepney B.C. :—

*J. Westwood & Co.	£416
W. Harbrow, Ltd.	479

LONDON.—Cleaning glass roof, &c., at Limehouse Generating Station, for the Stepney B.C. :—

*Vigor & Co. (Poplar), Ltd	1,150

MARLBOROUGH.—For the erection of 16 houses. Mr. H. W. Hillier, M.S.A., architect, 2, The Studios, 4, Albert-street, Regent's Park, N.W.1 : Mr. F. S. Cutler, A.M.I.C.E., Borough Surveyor, Marlborough :—

B. Hillier & Sons, Marlborough	£16,600

(Only tender received.)

PETERSFIELD.—For painting, repairs, &c., at the Poor Law Institution, for the B.G. ; Mr. D. A. Thomas, Sanitary Surveyor, 13, High-street, Petersfield :—

*W. Mould, Petersfield	£456 0 0
G. E. Rex, "	550 0 0
A. Patrick, "	646 17 6
F. Milton & Sons, Whitley, Surrey	696 0 0

Surveyor's estimate (less percentage) £400.

WANDSWORTH.—For provision of hut at St. James' Infirmary, for the Guardians :—

*W. J. Courts, Stratford	£676 15
London Provincial and Export Co., Westminster	667 0
Craftsmen & Co., Merton	740 0
G. A. Flint, Hounslow	750 0
T. Pearce, Balham	825 0
T. W. Palmer & Co., Merton	918 0

WARWICK.—For erection of houses in parishes of Cubbington, Radford, Tachbrook and Shrewley, for the R.D.C. Mr. Hugh Trepess, architect, 7, Church-street, Warwick :—

12 cottages at Cubbington—	
*Bailey & Co., Leamington	8,806 0 0
George Crouch, Warwick	£10,478 15 0
Crouch Bros., Kenilworth	10,336 12 6
John Pratt, Moseley	9,289 16 7
Six cottages at Radford Semele—	
*John Pratt, Moseley	4,422 15 0
George Crouch, Warwick	4,980 0 0
Bailey & Co., Leamington	4,696 0 0
Six cottages at Tachbrook—	
*John Pratt, Moseley	4,386 13 5
George Crouch, Warwick	4,980 0 0
Six cottages at Shrewley—	
*John Pratt, Moseley	4,269 0 0
Crouch Bros., Kenilworth	5,700 0 0
George Crouch, Warwick	5,030 0 0

Old Crosses and Lych-gates.

Mr. Avmer Vallance's work on "Old Crosses and Lych-gates," which will shortly be published by Messrs. B. T. Batsford, Ltd., is the first to classify, according to their design, the various types erected in England, and the illustrations from photographs and drawings include many fine crosses which have disappeared, or survive only in a mutilated form.

Messrs. Batsford are also issuing "Ypres: the Holy Ground of British Arms," a brief illustrated account of the city and battles by Lieut.-Colonel Beckles Willson.

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